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JPRS Report

Central Eurasia

Military Affairs

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Central Eurasia

Military Affairs

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18 April 1995

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ARMED FORCES ISSUES

Armed Forces Officer Shortage Exceeds 12 Percent

95UM0388B Moscow KRASNAYA ZVEZDA
in Russian 8 Apr 95 p 1

[Article by Ivan Sergeyev: "Cadres Decide, but Not All"]

[FBIS Translated Text] The total shortage of officer personnel of the Russian Army at the start of 1995 exceeded 12 percent. More than 38 percent of the total shortage is in the primary officer positions, stated the Chief of the Main Directorate for Cadres and Military Education of the Russian Federation Defense Ministry, Col-Gen Yevgeniy Vysotskiy, at a press conference held yesterday.

Among other measures to bring the Army and Navy up to strength with respect to officers, the personnel chief proposes bringing in reserve officers trained by the departments of civilian VUZ [higher educational institutes] for service. However the latter are prepared to serve provided that their pay and allowances will be 1.5 million rubles or higher. But where will the Army find the resources for lieutenants, if as reported at the press conference, even generals receive from 800 thousand to one million rubles?

MILITARY POLICY

Yushenkov on Possible Changes to Conscription

95UM0383A NOVOYE VREMYA in Russian
No 13, 1995 pp 12-13

[Interview with Sergey Yushenkov, chairman of the Defense Committee of the State Duma, by Igor Ryabov: "Battle for Conscription"]

[FBIS Translated Text] **Students can quit worrying. For the time being, there will be no general draft—the political situation and the constitution will not allow this. The supporters of reforms in the armies still hold the defense. But it can be broken through.**

[Ryabov] A recent report by your committee states that a general conscription call-up to the Army will not strengthen the country's defense capability. What is the basis of your conclusions?

[Yushenkov] It was not necessary to carry out any sort of global study. It was sufficient to extrapolate today's situation two or three years into the future. We will see that the stock of preinductees will soon be exhausted and will not save the situation.

Proposals on increasing the time of service or abolishing deferments will have some influence on the present situation. For example, if the amendment on increasing the time of service to two years is passed, then the 450,000 people who are supposed to be released to the reserves this year will continue to serve.

Yes, this is a significant increase along with those who are being drafted. But when the amendment ceases to be in effect, what then? The strength level will increase by another 16 percent if the time of service is extended. But with an average of 50 to 60 percent strength level for units (30-40 percent in some units), this increase will not be significant.

It seems to me that it is necessary to take an entirely different course. It has to do with a radical reform of the Armed Forces, with a reduction of units and combined units. For example, one unit should be established on the basis of two or three.

[Ryabov] And when can this be done?

[Yushenkov] It is possible to start today. The first step—the decision on reform—does not require enormous expenditures. It is a question of the political will. A presidential edict is sufficient.

Of course it is still necessary to take inventory, although there is information in the General Staff on which units are most combat ready and which have been taken to the open field.

Additional financial outlays arise when officers and generals are discharged. In accordance with the "Law on the Status of the Serviceman," they must be provided material support. This is not the huge sum that it is held to be. Moreover, funds will be released for the support of extra officers and equipment, the sale of which will also yield money.

The shift from the "battalion-regiment-division-army" system to the "battalion-brigade-corps" system will require additional resources but again not to the extent as is thought.

[Ryabov] The political will for reform—is this the will of the president?

[Yushenkov] The president is clearly failing to take successful steps. But his message to parliament hints at such a version. He understands that there is no real reform of the Armed Forces and that the Army of the USSR simply became the Army of Russia. The president also understands that the Armed Forces cannot reform themselves. He established a commission that is making proposals on the reform of the Army. This is encouraging but how much time has passed since that time? No specific steps are yet visible.

[Ryabov] Will the Duma raise the question of the retirement of Pavel Grachev in connection with the events in Chechnya?

[Yushenkov] This question has already been raised repeatedly in our committee by representatives of the parliamentary group "Russia's Choice," most recently on 17 March. But it was not supported by others.

[Ryabov] It was declared on that same day that students have no reason to worry, that they will not be called up. How long?

[Yushenkov] Students really have no reason to worry. The law has to be changed to draft students. It is hardly likely that a party or parliamentary group would disregard the law.

There are initiatives. The Geopolitical Committee has made a proposal on an amendment to the law on conscription, the essence of which is the abolishment of deferments from induction and an increase in the time of service. The Defense Committee examined these amendments and rejected them. The version of the Ministry of Defense was adopted. It proposed an increase in the time of service to two years and compulsory military service for all graduates of higher institutes of learning regardless of whether or not they had a military department.

The committee also proposes the abolishment of the draft for all armed formations except the ground forces, navy, border troops, and some units of the internal security troops. The Federal Agency for Government Communications, the Ministry for Emergency Situations, and the Ministry of Atomic Energy must recruit by contract rather than by conscription.

[Ryabov] Antireform initiatives in the Duma emanate from the Geopolitical Committee, including those initiatives that are supported by certain circles in the Ministry of Defense. Does this mean that the Ministry of Defense influences the decisions in the Duma through the Geopolitical Committee?

[Yushenkov] Of course.

[Ryabov] Can you define the persons in this channel?

[Yushenkov] The channel of influence of the Ministry of Defense passes through the parliamentary group of the LDPR [Liberal Democratic Party of Russia].

[Ryabov] The president is distancing himself from Zhirinovskiy but he is holding onto Grachev, who cooperates with Zhirinovskiy....

[Yushenkov] Grachev is not bothered by such ethical subtleties.

[Ryabov] Are the Ministry of Defense and the LDPR the forces that, as you say, are stirring up the political situation in the country?

[Yushenkov] Yes. One war is not enough for them. They want to militarize the entire society.

[Ryabov] It turns out that all of the extreme movements in the Ministry of Defense, including the operations in Chechnya, have to do with the LDPR. Does it have an opportunistic interest?

[Yushenkov] It is a stage in the dash to the south.

[Boxed material]

From the Report of the Defense Committee Presented to the Council of the State Duma

Today Russia has on the order of 2 million persons in the conscription group. They include all male citizens 18 to 25 years of age who have not been exempted from the draft for health reasons. If the draft deferments are abolished, then the group will be exhausted within two to three years and the only ones left will be those reaching the age of 18.

As of 1 January 1995, there were 950,000 youths registered with the military commissariats of Russia. Of them, as has been shown by the practice of recent years, 120,000-150,000 will be exempted from the draft for health reasons. Thus, the conscription group will amount to 800,000 men. Of them, 400,000 will be inducted in the spring (they will reach the age of 18 by July) and the other half will be called up in the fall. The number of military job assignments for soldiers and sergeants in the Armed Forces is such that each time it is necessary to induct on the order of 650,000 men. The country has 400,000 youths for this and that is under the condition that no one has a deferment, which in principle is impossible—there are family reasons and a number of other reasons. In addition, we must form the future officer corps and also the corps of ensigns and warrant officers from these 400,000.

Presidential Instruction Expands Military Preparatory Education

95UM0389A Moscow KRSNAYA ZVEZDA in Russian
6 Apr 95 p 3

[Russian Federation Presidential Directive signed by B. Yeltsin and commentary by KRSNAYA ZVEZDA Correspondent Sergey Knyazkov: "Russian Federation Presidential Directive"]

[FBIS Translated Text]

Russian Federation Presidential Directive

For the purpose of expanding opportunities for adolescent citizens of middle (complete) general and middle professional education and to ensure their comprehensive education and training for military service:

1. The Russian Federation Government will:

take steps to increase the number of middle (complete) general and middle professional education state educational institutions in the Russian Ministry of Defense and Russian MVD [Ministry of Internal Affairs] systems with additional educational programs that have the goal of military training of adolescent male citizens—Suvorov military, Nakhimov naval, military music schools and cadet corps (cadet, naval cadet, and music cadet corps); and,

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approve a statute within a three-month period on Suvorov military, Nakhimov naval, and military music schools and cadet corps (cadet, naval cadet, and music cadet corps).

2. This directive enters into force from the date it is signed.

[Signed] B. Yeltsin
President of the Russian Federation
April 3, 1995

Our Commentary

The Directive of the President of Russia on increasing the number of state Suvorov, Nakhimov and military music schools and also cadet corps puts an end to the contradictory discussion on the advisability of these military educational institutions. The state has finally realized that a critical time has arrived when the Fatherland urgently needs not only well-educated young men who are prepared to devote their lives to officer service but also real patriots of the Homeland.

In this sense, historical parallels unintentionally arise. A widespread network of military high schools and progymnaziya [incomplete middle general educational institutions] developed in pre-revolutionary Russia during the time of the reforms that were associated with the transition of the state from serfdom to capitalism. Approximately 30 cadet corps were operating prior to World War I.

Under the Soviet State, the revival of this type of educational institution was associated with urgent measures to revive the national economy in regions that were liberated from the German Fascists aggressors. The well-known VKP(B) [All-Union Communist Party (Bolsheviks)] Central Committee and USSR SNK [Council of People's Commissars] Decree in 1943 stressed that Suvorov military schools were being created based upon the old cadet corps type. A maximum of more than 20 Suvorov military and Nakhimov naval schools operated simultaneously in the USSR.

"At the present time, seven SVU's [Suvorov Military Schools], one NVMU [Nakhimov Naval School] and one cadet missile-artillery corps exist in Russia," said Colonel Valentin Bondarenko, head of the Suvorov Training Team—deputy chief of the Ground Forces Military Education Directorate. "Based upon the President's directive, the government must render its own decision in which the procedures for creating new schools and cadet corps and the sources of their financing will be defined. The 1995 budget has been approved, so the most realistic development of new educational institutions will be in 1996. And Irkutsk SVU will obviously be the first to accept students within its walls," thinks Colonel Valentin Bondarenko.

Yes, how regrettable it is that the once again an urgent state matter is running up against a lack of resources. Of course, quite a bit of money is required: maintenance of one SVU alone this year will cost the state approximately

several billion rubles. In that case, maybe the organs of local self-government will be involved in the development of the new schools because the RF Presidential Directive also concerns them.

AIR, AIR DEFENSE FORCES

'Resonans' Short Range Anti-Stealth Sensors Tested

95UM0390A Moscow *TEKHNIKA I MOLODEZHI*
in Russian No 3, Mar 1995 p 4

[Article by Yuriy Medvedev: "Hunt for the 'Stealth'"; "Russian Scientists Test Experimental Models of Simple and Inexpensive Radars That Make It Possible To Identify Inconspicuous Targets, Including Those of the 'Stealth' Type"]

[FBIS Translated Text] What is the secret of success of the famous invisible "Stealth" plane? It has transformed a basic advantage of radar systems into their disadvantage. The essence of this is as follows. Today decimeter and centimeter waves are used to detect targets. The urge to shorten the wave length is explainable: the shorter it is, the greater the accuracy with which the target coordinates can be identified. If, of course, it readily reflects an arriving signal.

This can be explained in the most general outlines as follows. The distance to the target is calculated from the time of return of the emitted signal. Clearly, the wider the pulse, the less the accuracy with which the time is recorded, and consequently the location of the target is calculated with greater error.

As for the accuracy with which the direction to the target is measured, this depends on the shape of the radar beam. It is desirable to make it narrow. Toward this end, the antenna should accommodate the smallest radiated wave lengths possible.

The metal housing of the "Stealth" is sheathed with special material with which the electromagnetic wave interacts, losing energy. The higher the frequency of the probing signal, the greater the loss and the simpler it is to create a coating. The fact is that in this case, the path traveled by the wave in the protective layer is much longer, and thus the number of obstacles it encounters in the material is also significant.

So a very attenuated wave makes it to the aircraft hull, is reflected and returned. Again it loses energy. For this reason, the signal from the target barely makes it back to the receiving antenna. Or it is so weak that it differs little from interference. The energy of the returning signal is also reduced because of the choice of shape of the aircraft: it is covered with a cowl which is flattened in order to maximally reduce the angles of reflection.

But since the main reason that the "Stealth" is unreachable has to do with energy, one would think that the problem of identifying it is not that complex. You have

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to increase the power of the radar enough to "break through" any coating that makes the aircraft invisible. But just for Russian borders such devices would require more energy than all electric power stations could provide to support their operation. So traditional methods of identification are not suited for "Stealths." New and cheaper ones are needed.

"We have succeeded in finding them," says the Deputy Director of the "Resonans" Scientific and Technical Center, I.P. Nazarenko. "Modern computer equipment helped. Today we can select data processing modes such that, while using quite long waves, we can obtain a detection error which is nearly as good as in radars in the decimeter and centimeter wavelengths. Of course, a long wave can also be attenuated in a protective layer, but then its thickness has to be very great."

It must be stressed that the new radars do not replace the traditional ones. The new ones their own obligations—identification of targets at long range, roughly 500 to 900 km, where especially great accuracy is not required. That is needed only when guiding missiles to an approaching adversary, when he is 50 to 100 km away. But until that moment, the information put out by the new systems is quite sufficient for Air Defense systems.

What is more, Air Defense radars have a comparatively small field of view, and a lot of time is required to scan the entire space. So much that a target might fly by undetected. The task of "Resonans" is to report the preliminary aim to the missilemen. Then they can concentrate their surveillance beforehand in the required direction.

One other thing—it is not for nothing that it is called "Resonans." It not only emits long waves, but also uses the phenomenon of resonance. As a result, the signal reflected from the target is even amplified.

"This important feature of its operation first of all made it possible to greatly reduce the energy consumption of the radar," says the Chief Designer of the radar, E.I. Shustov. "Second, it [made it possible] not simply to detect planes at long range, but also to identify them. Now we can tell the missilemen what sort of target is out there: a bomber, missile, fighter, helicopter, or sports aircraft like the one Rust flew to Moscow."

Or here is another problem—an adversary has been detected, but how many are there—one, two, a group? If for example, the planes are flying quite close to one another, the resolution of the current equipment does not allow us to answer this. "Resonans" can because it picks up even small changes in speed. If two adjacent planes are flying at the same speed, then you can't distinguish them on the radar screen. But just let one of them hit an air pocket, say, and the received signal is split. That is, the system begins to count the targets.

Today the air space of our country is guarded by powerful high-frequency radars. The cost of each runs in the billions of rubles. The cost of the "Resonans" is lower by

factors of ten. It has no moving parts, and its phased antenna is made of ordinary metal pipes. For this reason it has higher reliability, and is lighter, smaller, and simpler to operate.

The small dimensions and simple apparatus make it possible to build the entire observation system generally in a different way. For example, to create flying radars. When raised to a height of 25 km, they will have a viewing radius of 500 km. This greatly reduces their total number and makes it possible to survey the territory of the adversary to a sufficient depth.

Such systems are today well known—aircraft of the AWACS type. In them the antenna is mounted on a finished aircraft. However there is a much more effective variant: combining a radar and plane structurally, making a kind of flying square. Built-in antennas are arranged along its perimeter in order to radiate in all directions at once, providing all-around scanning, and making it possible to do without complex mechanics.

A similar aircraft, controlled by an operator on board, has already been tested in the United States. A group of our engineers, under the supervision of A.Kh. Karimov at the "Aerobot" company, took a different path. They are developing a pilotless plane at one tenth the cost. The areas of its application are most diverse: searching for mineral resources, reconnaissance of navigational conditions etc. Now the work is full speed ahead. The main problem is to build a high-powered, quiet piston engine with a power of around 450 HP.

What is especially indicative in the situation of "Resonans"? I dare say that just recently it hardly would have interested our defense complex. This time it has reliably financed the scientific research work and development of the experimental models. After all, the time when the military industrial complex received as much money as it asked for is passed. And here, like it or not, you give preference to effective but much cheaper scientific-technical solutions.

CHECHNYA

Description of Operations Around Gudermes

95UM0389B Moscow KRSNAYA ZVEZDA

in Russian 6 Apr 95 p 3

[Article by KRSNAYA ZVEZDA Correspondent Nikolay Starodymov: "Gudermes. A Dual Blockade"]

[FBIS Translated Text] The capture of Gudermes aroused ambiguous opinions. And quite a few questions. If they took it without a battle—where did the casualties come from? What happened, did the guerrillas withdraw on their own or did they force them to withdraw? What happened after that? We haven't always managed to get answers to these and other questions in the short communiques that have been transmitted from the scene of events. Today we can describe the situation to some degree when the events have actually concluded.

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It is known that the guerrillas anticipated the offensive against Gudermes from Argun which was previously captured by Federal Troops. Here the Tersk Mountain Range is seemingly interrupted, leaving a convenient mountain pass which is called the Gudermes Gates. The other mountain passes to the city were considered to be impassable. That is why the main guerrilla force was concentrated in that direction.

Taking this into account, the airborne assault troops of the composite regiment of the 76th Guards Division were sent directly to Gudermes through a completely swampy sector. They formed a combined column—they placed wheeled vehicles between tracked vehicles and passed through it!

The forward detachment—a battalion commanded by Major Aleksandr Larchenko—occupied the high ground as the top priority. The combat experience they have accumulated up to the present time taught them that. In the process two T-72 tanks were destroyed and a D-30 howitzer was captured. The subordinates of Major Valeriy Yanin and Captain Yuriy Baboshin particularly distinguished themselves here

Caught unawares, the guerrillas were compelled to hastily abandon thoroughly prepared positions. The 276th Motorized Rifle Regiment completed the encirclement of the city at that time in coordination with the airborne assault troops.

Panic arose among the Dudayevites in Gudermes. They fought and exchanged fire from the transportation on which they could have run away from the city.

In the ultimatum that was transmitted to the guerrillas after the ring was closed, the Federal Troops command authorities guaranteed: they would not open artillery fire against the city if there was no resistance. But they did not respond to the humanitarian act. Internal troops subunits had barely entered the city when the firing began there. They once again had to employ artillery to suppress centers of resistance.

Regimental Commander Colonel Sergey Tulin is an experienced officer. The first thing he did, having cut the Dudayevites off from their route of retreat into the mountains, was to set up an external blockade. An attempt to break out of the city appeared to him to be improbable—you can't conquer the dominating airborne assault troops on the high ground while on the open slopes... But the guerrillas were able to welcome them from behind the mountain range from the village of Belorechye.

The commander's intuition did not let him down. At night up to 50 Dudayevites in teams of 5-10 men undertook a sally from without. Knowing the terrain well, they crawled practically right up to the airborne assault troops, moved in from the flanks and the rear, unexpectedly opened fire and suddenly disappeared into the darkness.

But then again, these hit-and-run tactics were ineffective—the enemy did not understand the regiment's defensive formation. The guerrillas themselves lost no less than seven men killed. The artillery piece did not help them (neither the mortar nor the recoilless rifle...) that fired from the bed of a GAZ-66 that was maneuvering along a road.

The next night the guerrillas attempted to get even. But the airborne assault troops were not dozing, having organized work to build field fortifications beforehand: they dug trenches and they set up mine fields... In short, at that time they managed to detect two Dudayevite storage sites—with TNT mines. Everything was new as if it had just been taken out of storage...

And yet the forces at that time, on March 30, were obviously inadequate. Company Commander Captain Aleksandr Dostavalov, while showing us his company's defensive position, did not hide his concern:

"Two of my platoons are sitting on the peak practically in a perimeter defense. And the guerrillas have enough forces..."

There was a battle at night. Blood was spilled from both sides. They could hear the Chechens "holding funeral services" for the dead in the predawn stillness. And a Russian helicopter landed in the morning for its "200 payload" [gruz 200] and wounded personnel...

Successful Operations Near Samashkek Reported

95UM0388A Moscow KRASNAYA ZVEZDA in Russian
11 Apr 95 p 3

[ITAR-TASS report: "Chechnya: Our Troops Successfully Concluded Operation in Samashki Area"]

[FBIS Translated Text] This occurred on Saturday after an hours-long battle. More than 130 Dudayev followers were killed and 124 taken prisoner. Three populated areas where major Dudayev forces were garrisoned—Samashki, Davydenko and Novyy Sharoy—were completely cleared of fighters.

On Friday an ultimatum was presented to the bandit formations located in the region of Samashki, Davydenko and Novyy Sharoy—to voluntarily lay down their weapons. But the fighters refused. What is more, the Dudayev followers shot a group of local residents who intended to conduct negotiations with representatives of the Russian troop command. The combat operation against the Dudayev followers was undertaken by federal forces after 450 peaceful residents, mainly women and children, had been evacuated from the populated areas.

Nonetheless the Dudayev proponents did not leave off attempts to activate their raids and terrorist activity. During the night small groups of fighters in Grozny started six fires, at school buildings and state institutions, and fired on several positions of Russian troops in the southwest areas of the city. In addition attacks were

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made on the posts of Federal forces. Similar actions were also carried out by the fighters in other populated areas of Chechnya.

However information from various sources testifies that the restoration of control of federal authorities over the central regions of the Chechen Republic has led to a drop in the level of the morale and psychological motivation of a large number of Dudayev's fighters. The high percentage of losses of personnel and equipment and the growing shortage of reserves of food and material, ammunition and a trained reserve have resulted in practically complete cessation of recruitment of volunteers to the armed formations of Dzhokhar Dudayev.

Chechen Campaign Results 'Depressing'

95UM0367A Moscow MOSCOW NEWS in English
No 10, 17-23 Mar 95 p 2

[Article by Alexander Zhilin, MN military commentator: "One Hundred Days of War in Chechnya"; first paragraph is introductory paragraph]

[FBIS Transcribed Text] No matter how the war ends, one thing for sure is that it has become a tragedy for the Russian Army.

The intermediate results of the campaign look depressing. Federal forces managed to capture the Naur-sky, Nadterechny and Shelkovsky regions with almost no resistance, and established a relative control over the ruins of Grozny. The remaining territory is still partly (in the day yours, at night ours) or fully under the control of the Chechen fighters. According to different estimates, the Russian troops have lost about 5,000 men. Among the civilians, over 20,000 were killed with over 300,000 currently refugees and struggling desperately to survive. The Republic's economy has already suffered an estimated \$46-52 billion in damage. Six settlements were demolished completely and eighty are partially ruined. If the fighters do not stop their resistance, the towns of Argun, Samashki and Shali will be destroyed by bombing during the next two weeks.

Since Russia has no appropriate legal mechanism legislating the use of troops in internal conflicts, the operation in Chechnya began without official decrees, or laws or written resolutions. As military legal experts say, this makes the Chechen campaign illegal.

Legal baselessness of the operation has already caused crisis in the leadership of the defense ministry. Boris Gromov, Georgy Kondratyev and Valery Mironov, all deputy defense ministers, raised objections against unplanned force in the region. One of them (Kondratyev) was in effect fired and the others were forced to leave the agency. However, this did not settle the crisis in the defense ministry. Observers maintain that the "Afghan" group of opposition generals might soon be replaced by the so-called "Chechen" group where Pavel Grachev would have trouble finding his niche. The new

strategists of the civil war who now gain influence will not want to get along with the minister who has lost support from the troops.

From the first day of the Chechen campaign it became clear that the Russian Army has not a single efficient division or even regiment. Never before have military districts formed new fighting units and sent them to war. Even the elite Kantemirovskaya and Tamanskaya divisions had to collect officers and soldiers from different units. According to data obtained from the General headquarters, up to 60 percent of tank and armored vehicle crews were formed on the way to Mozdok or just before the offensive.

As a result, the military operation in Chechnya resulted in irrational violence. Issuing the order to carry out huge air and artillery strikes against the city, the defense minister consciously sacrificed its peaceful residents. Using bombers during bad weather and low visibility forced pilots to bomb from considerable heights and from above the clouds, which means at random. When the "Grad" and "Uragan" volley fire systems were put into operation it became clear that casualties among the civilians would be counted in the thousands.

The Russian air force was compelled to perform a punitive action maybe for the first time in its history. Use of "pellet" and "needle" ammunition to bomb a settlement is forbidden even in international wars.

The Chechen operation has also shown the weakness of the Armed Forces in mobilization readiness. According to the office of general inspection, the defense ministry's effort to carry out the partial mobilization of citizens and the transportation infrastructure was an outright failure. Specialists have expressed fears that in the case that war is declared, the recruiting stations will not be able to mobilize reinforcements and find transportation for them in the civil economy. This means that Russia is completely unready to resist any considerable attack from outside its borders.

The spring selective draft is also under threat of failure. Experts estimate that only 25-30 percent of draftees who have no deferments will be called up for military service. This is only if the mothers of these soldiers do not carry out any nationwide anti-army actions.

Experts maintain that the Chechen operation, which was also meant to curb crime in the region, has instead led to its escalation. Arms from the conflict zone are being spread across the country with perfect impunity. It is important to note that it is federal troops that do this business. We know this from those lawsuits filed already by the Federal Counterintelligence Service against army officers. I would also like to note that in Afghanistan that kind of business was widely spread amongst members of the Russian military.

One must not forget that soldiers who learned their lessons of violence from the Chechen campaign are due

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to return home later this year. Specialists are predicting the emergence of a "Chechen Syndrome" that may spur the growth of major crimes like robbery and murder. One cannot rule out the possibility that gangs will receive experienced, cynical and impudent replenishments. If we observe that all of this coincides with the beginning of the second stage of privatization, connected with land and property relations, we may speak of a cold summer to come.

These are the intermediate results of the Chechen war and there is still no end in sight.

Finnish View of Russian Operations in Chechnya

95UM0366A Helsinki HELSINGIN SANOMAT
in Finnish 12 Feb 95 p C2

[Article by Leo Pugin: "Chechnya Does Not Represent Russia's Entire Strike Force; Expert Warns Against Jumping Too Quickly to Conclusions on Armed Forces Capability"]

[FBIS Translated Text] Moscow—When Russian troops crossed the Chechen border on 11 December, hardly anyone doubted that one of the most powerful armies in the world would crush the resistance of the Chechen rebels within a few days or a week at most.

Now, two weeks later, the Russians have hardly gained control of the Chechen capital, Grozny. Their losses have been considerable. Estimates of the striking force of the superpower's army have, if not completely plummeted, at least been radically changed.

The first news pictures showed a massive superiority in men and equipment. Chechen leader Dzhohar Dudayev's troops appeared to have only hand weapons and recoilless rifles against Russian tanks, helicopters, fighter-bombers, and artillery.

The Russians thought that they would march into Grozny in parade formation. Defense Minister Pavel Grachev said that a couple of hours would be all they needed to take Grozny.

But the operation began to flounder right from the first few days. Starting out from Ingushetia, the tank columns were forced to stop as early as at the Chechen border. Civilians who set themselves in the path of the tanks saw to that.

The commanders refused to fire on the civilians and the delay benefited the Chechens, who gained more time to assemble their ranks.

The first attempt to take Grozny, which began on New Year's Eve, ended in a total catastrophe. The Chechens completely destroyed the tank column that had

advanced into the center of the town. The Russians had to change their tactics and they began to hammer away at Grozny with heavy weapons. That was regarded as an indication of the Army's inability to wage city warfare.

To Some Extent They Warned Civilians'

Western military sources operating in Moscow have, however, warned against arriving at overly far-reaching conclusions about the Russian Army's present situation. According to a Western military expert working in Moscow who was interviewed by HELSINGIN SANOMAT, the events occurring in Chechnya must not be thought of as a normal military operation against an enemy.

"During the initial phase the Russians did not use their fire power as they usually do in such a situation. They did indeed warn the civilians, at least to some extent," the expert, who did not want his name made public, said.

According to the expert, the military actions in Chechnya are exceptional, since the Russian troops actually attacked on Russian soil.

"Armies aren't trained for such situations. The initial defeats can in part be explained as being due to these factors," he said.

"But not everyone agrees unanimously that the operation was adequately planned and prepared. The launching of the operation was based on an erroneous assessment of the situation."

Chechens' Morale Has Held Fast

The Russian leaders evidently did not believe that the Chechens were capable of putting up so organized a resistance. Furthermore, the Chechen fighters' morale is especially high, and the policy of destruction employed by the Russians has also gotten Dudayev's opponents to turn against the Russians.

The Russian troops' actions have clearly been characterized by the recruits' poor level of training. Having served just a few months, these recruits were sent into battle.

"The Russian Army units are in principle in a wartime configuration. They are, however, short of men and they need replacements. And then there are too many untrained men, and the result can be seen by anyone," the expert explained.

"The ranks are used to acting as a whole, but now the units are quickly slapped together. Perhaps they originally thought that the operation could be handled by the North Caucasus troops alone."

However, the expert emphasized that the marines and the paratroops have been very successful in the battles.

The recruits' level of motivation is not the best possible one either. The expert indeed wondered why the soldiers were not told the reasons for the operation. "The men were just put on trains and that was that!"

The expert thinks that the first attack on Grozny was based on a completely erroneous assessment. "I don't know what they (the Russians) were thinking when they sent a tank column into the town. Maybe they thought that the tanks would frighten the resistance fighters into leaving the town."

Last October Russia lost elite units of its Army, among them the Alfa unit, which had acquired a reputation in connection with the parliament revolt of October of the previous year.

"These special forces would have been better suited to city warfare," the expert asserted.

The Russian Air Force willingly exhibits its latest equipment at Western air shows and boasts about the striking force of its fighters and combat helicopters. However, the Chechen Air Force has been quite invisible.

"In connection with this, we should, on the other hand, bear in mind the exceptional nature of the operation: This is the Chechens' 'own' territory and civilian population and the weather conditions have not been optimal, either," the expert said.

Russian pilots complain about the smaller number of flying hours they have. They fly on average from 20 to 30 hours a year, whereas they should have at least 150 flying hours.

Easy To Make Erroneous Assessment

"It is, however, hard to assess the Armed Forces' performance on this basis. We easily delude ourselves if we now say that the Russian Army as a deterrent is a mere illusion," the expert said.

Now that the Russians appear to have gained control of Grozny, it is estimated that the fighting will shift to the countryside. Many people also believe that the Chechens will switch to guerilla warfare.

The Western military expert does not, however, entirely believe that it will be systematic guerilla warfare. He thinks that Chechen resistance will mainly decline to the level of sabotage.

"They don't have enough outside support, which is a prerequisite of systematic partisan warfare. They certainly have enough weapons, but it's otherwise difficult for them to get supplies," he thinks.

The expert regards the Chechnya operation as above all a warning by Russian leaders to other areas planning to secede from the federation: "This is an indication of the lengths to which Russia's national leaders are prepared to go to keep the federation together."

"On the other hand, the events occurring in Chechnya are also serving as examples to Azerbaijan and Georgia, which have their own problems with Nagorno-Karabakh and Abkhazia," the expert said.

UKRAINE

Lt-Gen Ihnatenko Stresses Defense Priority in State Budget

95UM0373A Kiev NARODNA ARMIYA in Ukrainian
28 Mar 95 p 1

[Text of speech at a session of the Supreme Soviet by People's Deputy Lieutenant-General Oleksandr Ihnatenko under the rubric "Our People in Parliament": "The Defense of the Fatherland Is a Priority in the State Budget"]

[FBIS Translated Text] *One of the most important of the issues that was considered recently by the Supreme Soviet of Ukraine was undoubtedly the discussion of the state budget for 1995. A number of people's deputies from among the servicemen shared their ideas pertaining to it, particularly the provisions pertaining specifically to the Armed Forces of Ukraine. We offer to our readers the text of the speech by Lieutenant-General Oleksandr Ihnatenko, which, owing to a lack of time caused by parliamentary regulations, was given in abridged form.*

Dear Mr. Chairman, members of the government and people's deputies!

Today, as we have already heard many times in this hall, an extremely important issue is being resolved. We must make crucial decisions so that the funds that available are utilized by the state as much and as efficiently as possible.

We are profoundly convinced that the weight of the economic crisis in Ukraine should be divided equally among all of its structures, but certain specific features must be taken into account. I have in mind the question of defense, and the funds that are allocated from the budget for it. The state budget, after all, should finance first and foremost the bodies that support the functions and existence of the state itself. That being so, it must be taken into account and priority areas defined.

The primary one among them is the protection of the state against internal and external threats. These tasks are performed by the Armed Forces of Ukraine and the bodies for security and law enforcement. An analysis of the draft budget for 1995, however, shows that these power structures are not able to perform their functions. That in turn threatens the security of the state.

The draft budget stipulates the allocation to the Ministry of Defense [MO] of 21 percent of its minimal requirements for existence, which comprises 2.2 percent of the gross domestic product and one percent of the overall amount of spending. If we take three groups of countries for comparison (those with low, medium and high incomes), the spending is the least in Ukraine. Such allocations from the state budget for the requirements of defense, that is, are characteristic of countries with low levels of income! Our neighbor Russia, for example, allocated 21.3 percent of the overall spending from the

federal budget, which is 5.2 times more than the corresponding values for Ukraine. These funds, by the way, were allocated by the State Duma of Russia even before the war in Chechnya had started.

An analysis of the size and spending for the upkeep of other state bodies over the existence of independent Ukraine testifies that, for example, the number of central administrative bodies has increased by 81 percent. The size of the administrative apparatus has grown by 66 percent accordingly (including the Ministry of Defense). And the size of the local executive authorities has increased by 74,000 people...

Who could endure this? What economy can maintain such an enormous bureaucratic apparatus? That is where the reserves lie for the real financing of the budget of the Ministry of Defense.

I propose that we look at the Armed Forces of Ukraine from this point of view. Their size has decreased by 59 percent. The level of maintenance has decreased by 78 percent accordingly. One could ask, where did the funds go that were freed up as a result of these cutbacks? There is no answer. The status of the servicemen themselves has meanwhile not improved from these actions; sooner the reverse.

To go on. The approval of the proposed budget will effectively lead to the elimination of the Armed Forces of Ukraine. The state is spending more than two trillion karbovantsi out of the budget for the elimination of nuclear weapons at the same time. But we first have to ensure a sound defense, and then allocate funds to resolve the issue of arms reduction.

I would like to direct your attention to the fact that the overall amount for the needs of defense, which is shared by all of the military formations, will constitute just one percent of the gross social product. Even if no spending at all is envisaged for these needs, it would not save the economy from the crisis phenomena that are negatively affecting it anyway. As just one example, more than 15 trillion karbovantsi are planned for the cutback of the Armed Forces this year... Can we permit ourselves that today?

I thus stress that the state needs new approaches. Funds must be invested in priority areas, those being scientifically sophisticated and market-competitive technologies first and foremost. We must preserve and support the development of scientific and technical potential.

Turning to the main question—where to get the funds for the Ministry of Defense? I feel that we are not already so rich today, for example, as to release the Black Sea Fleet from taxes on the land. We only need be guided by Article 16 of the corresponding law.

It is most important to alter the hypertrophied pattern of spending from the state budget. The fact that, for example, the granting of loans to land and processing enterprises that is to be, according to the proposal of the

President of Ukraine, ten trillion karbovantsi, has suddenly grown to 50 trillion karbovantsi coming out of the Commission of the Supreme Soviet on Budget Issues of Mykola Azarov. I personally feel that these enterprises must earn money independently, and not look to the state coffers.

Or look at the spending for the servicing of foreign debt. Some 213 trillion karbovantsi are planned, and now that figure has turned into 273. What kind of debt is this that increases so much overnight?

The draft law on the state budget signed by the president of Ukraine provided for 100 trillion karbovantsi for state capital investments in particular. Now someone is proposing 209 trillion. Here are funds that could be spent to strengthen the defense of the state.

There is a whole series of proposals that, in my opinion, could improve the situation with the budget for military matters somewhat. First, the Ministry of Defense must be granted an opportunity to create its own commercial bank. Then the money that is allocated for defense purposes would be "working" for it, and not for commercial structures.

As for the MO itself, it must seek out reserves within its own department more vigorously. It is essential to switch over to self-support for the military sovkhozes in particular, as well as all of the business structures of the ministry.

Second, it makes sense to grant the Ministry the right to commercial activity, of course with mandatory state controls over the receipt of funds from extrabudgetary sources of financing—the receipt of funds, for example, for the use of radio frequencies, for the services of the space communications stations, the servicing of the airspace etc.

There is one caution, however—we must not "hang" on the military budget spending that is inherent to other state structures, the ministries of health and education, or the committees of municipal services and housing construction. It could have happened, incidentally, that the funds envisaged by the draft state budget for housing construction for servicemen of 20 trillion karbovantsi were cut to 10 trillion. Who got this "idea"? Only a person who has had a roof over his head his whole life and does not understand that there are people who are defending the state and who do not, at the same time, have their own housing could seek such a resolution. It must furthermore be taken into account that these funds are not going simply for the construction of apartments for the families of servicemen, but are also being invested in the sphere of material production. That is also advantageous to the state.

Finally, the funds directed toward defense are not some mythical thing. They will be passed along to the producers of agricultural products, the light and food industries, machine building, they will be invested in the

development of science and technology. We must also not forget such an important matter as the patriotic education of the young... The funds, that is to say, will not be tossed to the winds.

I propose that the budget of the Ministry of Defense be approved in the amount of 141 trillion karbovantsi, which is a third of the minimal requirements for the military department, and that the state budget for 1995 be adopted in its first reading with a regard for the proposals pertaining to the funds that are allocated for the defense of the state.

I thank you very sincerely for your attention, and I ask that you support my proposal.

Call To Keep National Security Concepts Free From Political Quarrels

95UM0365A Kiev NARODNA ARMIYA in Ukrainian
21 Mar 95 p 1

[Article by NARODNA ARMIYA commentator Captain Serhiy Zhurets under the rubric "On the Eve...": "Will the Conceptual Framework of National Security Be a Hostage to Political Disputes?"]

[FBIS Translated Text] *The long-awaited Conceptual Framework for the National Security of Ukraine is to be considered in the present session of the Supreme Soviet. Some observers, however, are expressing apprehensions that against the background of the sharp debates on the separation of powers between the legislative and executive branches of power, the Conceptual Framework for National Security could end up a hostage to those disputes, and that as a consequence, long-term state priorities will be made dependent on internal political and apparatus interests.*

The Conceptual Framework for National Security, in its final version, has to resolve two sets of issues. First, it has to outline the mutual subordination of the state structures and institutions that are directly associated with the problems of national security.

Second, this document finally has to define the threats to the independence of Ukraine. This will, in turn, provide an opportunity to make an optimal combination of political, diplomatic, and military efforts so as to counter those threats effectively. The Secretary of the National Security Council of the president of Ukraine, Volodymyr Horbulin, himself confirmed in one of his interviews that the main threats to Ukraine are not in the military area. The main thing is the lack of alternatives in sources of energy supply, as well as the economic dependence of the young nation on other countries. Volodymyr Horbulin, a man on the president's team, however, puts the uncertainties in the system of state leadership of the country in first place despite this power and economic dependence.

This delineation of priorities in the determination of the threats to Ukraine gains particular weight precisely

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against the background of the sharp debates about exactly how power should be divided between the executive and legislative branches. The contradictions that have been outlined between the president and the parliament surrounding the substance of the draft Law on State Power and Local Self-Government are in danger of spilling over into the Conceptual Framework for National Security itself.

How realistic are these apprehensions? The first indication could be considered the consequences of the review of the draft Conceptual Framework for National Security in the presidential structures, after which additions appeared to two articles. The additions pertained to the delimitation of authority between the president and the parliament of Ukraine. The corrections were asserted to bring the draft Conceptual Framework for National Security into conformity with another draft—the draft Law on State Power and Local Self-Government, although it was not mentioned here that the draft Law on State Power and Local Self-Government, in its presidential version, does not arouse any particular optimism among the parliamentarians, who very much do not want to expand the powers of the president, especially when it could affect the subsequent fate of the parliament itself. The final results of this confrontation are unknown. That is why the chairman of the Supreme Soviet Commission on Issues of Defense and State Security, Volodymyr Mukhin, asserts that “The pyramid of the Conceptual Framework is actually ready now. It only remains to find out what lies at the summit of that pyramid—the authority of the president or the authority of the Supreme Soviet.” That is also why it is understandable that the approval of the Conceptual Framework for National Security is proposed only after parliamentary approval of the Law on State Power and Local Self-Government, when the correlation of forces has already been more or less defined. It could occur in such a way, however, that a consequence of this confrontation over the Conceptual Framework for National Security, which is to become the foundation for a series of other legislation (among them the Law on National Security and, it cannot be ruled out, amendments to the Military Doctrine), could be the fate of the Military Doctrine itself, after the approval of which the debates pertaining to its substance continue to this day. And that would signify that the long-awaited Conceptual Framework for National Security would scarcely be able to justify the hopes that are connected with the final approval of that document.

Ukrainian AF Officers Comment on U.S. Stealth Aircraft, Gulf Experience

95UM0374A Kiev NARODNA ARMIYA in Ukrainian
10 Mar 95 p 2

[Article by Colonel Leonid Podnosov, deputy chief of staff of the 14th Air Corps, and NARODNA ARMIYA special correspondent Lieutenant-Colonel Nykyfor Lysytsya under the rubric “In the Armies of Foreign Nations”: “The ‘Stealth’ Aircraft—Myths and Reality”]

[FBIS Translated Text] *The combat and, first and foremost, tactical training of the pilots of our Air Force is proceeding very slowly. Flights are rare, owing to the lack of fuel. The group practicing of flight exercises as part of flights and squadrons is practically not being done at all. One can only dream of joint tactical exercises with the ground troops. You cannot, of course, gain any great experience, normal flight proficiency or tactical mastery under such conditions.*

But when your own experience is lacking, it is not superfluous to borrow that of others. Paraphrasing the great Kobzar, one could say do not avoid your own and study that of others. We thus offer material on the combat experience that has been gained in local wars, conflicts and tactical exercises where the air power of the leading countries of the world was employed.

The appearance of a new aircraft, the so-called Stealth F-117A, and its employment in combat operations elicited great interest among military specialists. The more so as very little has been written in the press regarding its employment.

The F-117A aircraft was employed in combat operations for the first time during the intervention of American troops in Panama on the night of 20 December 1989. Two aircraft then dropped one 900-kg bomb each on a target. The first application, true, cannot be called successful. One bomb, according to reports in the Western press, landed 300 meters from the target, with a deviation of not more than 45 meters considered to be normal. The failure possibly occurred because of an error made by the pilot.

The Stealth aircraft were utilized quite effectively during the combat operations in the Persian Gulf, as testified by the following data: the F-117A aircraft—there were approximately 50 of them—constituted only 2.3 percent of the total number of combat aircraft of the multinational forces, and carried out only three percent of the overall number of combat sorties. But they hit more than 40 of the most important and strongly protected targets on Iraqi territory.

This is a quite mysterious and unconventional looking aircraft. It is 13.2 meters long, with a wingspan of 20.1 meters and a height of 3.7 meters. Its greatest takeoff weight is 26.2 tonnes (the aircraft weighs 13.6 tonnes empty). The average radar signature of such a large and heavy aircraft, however, is estimated at just one percent, that is, just one thousandth of a square meter.

Each such aircraft was armed with two 6BV-10 and 6BV-27 guided aerial bombs. They can also carry the HARM antiradar missile and air-to-air and Maverick class air-to-surface missiles. The overall mass of the combat payload cannot exceed 1,800 kg therein.

The on-board equipment includes a sighting and navigational system that is composed of the forward- and rear-scanning FLIR television system and a laser target

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designator, combined with a mechanical gyroscope and a receiver for the Navstar satellite system. The cost of the F-117A aircraft is 120 million dollars.

There is no radar on the aircraft, in order to ensure its electromagnetic concealment. However there had previously been, according to some reports, a radar set with a flat, downward-directed antenna array, which made it possible to examine the surface over which it was flying. The possibility of installing a radar with a shaped antenna within the fairing of the aircraft is being considered for the future.

Steps were also taken with regard to visual detection. The method of active masking—illuminating the surface of the aircraft in accordance with the level of background illumination—was employed for this purpose. The F-117A aircraft generally fly at night as well. Flights are made for the most part with complete radio silence of the aircraft in order to increase concealment, and it is not violated even during aerial refuelings. A special laser system that they are furnished with is used for communication between the aircraft.

The low detectability of the F-117A aircraft to enemy radar allows the pilots to fly at medium and high altitudes, up to 7.5 km, under combat conditions, and to descend to 600—900 meters when approaching a target. High accuracy is ensured therein thanks to an on-board sighting and navigational system that finds the target and illuminates it by laser before bombing.

The EF-111 and EA-6A electronic-warfare aircraft were brought to the territory of Iraq before the use of the Stealth aircraft, and they jammed the enemy and did everything to see that the radar detection of the aircraft was made more difficult. The F-117A aircraft made their flights safely thanks to that. The commander of one of the squadrons that flew over Baghdad said that he flew over the entire city and his aircraft was not fired on a single time.

The aforementioned Stealth aircraft, however, are not all that invisible. Reports appeared in the Western European press during the use of the F-117A aircraft in the Persian Gulf that the French TSE-50 radar from the firm of Thomson picked out the aircraft in the air several times. There were also reports that the long-range radar tracking gear of the E-3A aircraft of the AWACS system of Saudi Arabia were able to glimpse the Stealths. Pentagon spokesmen said in response to this, it is true, that the aircraft has a special device on the combat surfaces when making training flights in order to increase radar detectability for the purpose of increasing flight safety.

The F-117A nonetheless can be tracked using meter-band radar, as well as special acoustic sensors at distances of up to eight km. It has a quite characteristic acoustic "signature" therein. An aircraft that is approaching an observer has a weak sound of a high tone

that is given off, most likely, by the engine air intakes. An aircraft that is receding has a sound in the medium frequency band.

Prospects for Baltic-Black Sea Cooperation

95UM0365B Kiev NARODNA ARMIYA in Ukrainian
22 Mar 95 p 3

[Article by Ukrinform commentator Petro Kolomiyets under the rubric "International View": "The Baltic-Black Sea Alliance: Dreams and Reality"]

[FBIS Translated Text] Discussion appears in the pages of the Ukrainian press from time to time regarding the possibility of creating a so-called Baltic-Black Sea Alliance (BChA), which would include the countries that are located between the Baltic and the Black seas. According to the plans of the enthusiasts of this new direction of integration, the Baltic countries, Belarus and Ukraine could be members of the alliance. The new integrative creation could also gradually enlist Moldova, Poland, Slovakia, Hungary and Rumania in joint economic projects.

The Ukrainian Republican Party is actively supporting the idea of such an alliance here. The prominent political scientist and economist Oleh Soskin, recently elected president of the Liberal Party of Ukraine, has also been promoting it in every way.

An imposing international expert seminar was held in Kiev at the end of last year; a host of issues connected with the predicted evaluations of the possibilities for the creation and functioning of the BChA were discussed. The official representatives of the power structures of Ukraine did not make their views public on this score. The reaction of official circles in Belarus and the Baltic countries to the proposals advanced by this seminar is also unknown.

The alliance, in the opinion of enthusiasts of the new direction for integration, could be an international association that would foster the development of various levels of interregional and border cooperation. There are forms of this kind of interaction in Europe—the so-called Euroregions.

The participating countries in the BChA, for the purpose of ensuring the most favorable conditions for the development of mutually advantageous collaboration, could develop the infrastructure in coordinated fashion—oil pipelines, gas supply network, trunk transport lines—and liberalize trade regimes and the regulations for the movements of people and capital, as well as devise a mechanism for the coordination of foreign policy and legal standardization. The idea of building an oil pipeline in a meridional direction that would like the oil terminal under construction at Odessa with an oil terminal at some port on the Baltic Sea is a tempting one; it would provide an opportunity for all participants in the alliance to expand the circle of suppliers of energy

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products and protect their economies from the ruinous consequences of unforeseen events.

The question could arise, of course, of how the idea of creating a Baltic-Black Sea Alliance would be incorporated into the integrative structures already existing on this terrain; Ukraine and Belarus, for example, are already members of the CIS, and Lithuania, Latvia and Estonia are part of the Baltic Assembly. Ukraine is also a member of the Black Sea Economic Cooperation Zone. The Baltic countries also have real chances of entering the European Union, at least in the "third wave..."

It may be recalled in this connection that the slogan "Europe of Nations" is gradually being replaced in the West by the slogan "Europe of Regions." Nations that are part of a certain region, in other words, have closer integrative ties among each other than they do with the rest of the nations on the continent. There is a certain logic in that.

The temptation exists, but... it is, first of all, too soon to predict what the reaction of the Russian Federation will be to the creation of a Baltic-Black Sea Alliance. There are, simply, grounds to suppose that the political and economic interests of the hypothetical participants in the alliance do not always coincide. Belarus has already taken the path of close integration with Russia. The construction of a gas pipeline from Russia to Poland across its territory (negotiations are now underway in Warsaw pertaining to the terms for laying a portion of it on Polish territory), to a certain extent, would even transform it into a competitor of Ukraine in the sphere of the transit of Russian energy products.

Latvia and Estonia, judging from everything, are simultaneously oriented toward the Scandinavian and West European countries. They moreover obtain enormous profits from the transit of Russian goods through their ports. And, finally, all of the countries of the Baltic are hoping to join NATO in the "second wave"—after the countries of the Warsaw Pact—and the EC in the "third," as has already been mentioned.

It is actually the politicians in Ukraine who consider the membership of Ukraine in the CIS to be without prospects, or even harmful, who are for the most part promoting and developing the idea of creating a Baltic-Black Sea Alliance. Most politicians, and even more economists, do not agree with them. It looks like this idea should remain just an idea.

But who knows...?

Kiev Conference on Theory, Structure of International Security

95UM0365C Kiev NARODNA ARMIYA in Ukrainian
22 Mar 95 p 3

[Article by Captain Serhiy Sheheda under the rubric "International Contacts": "So That Capabilities Coincide With Wishes"]

[FBIS Translated Text] The scientific seminar "The Theory and Structure of International Security," devoted to the Partnership for Peace program, ended recently in Kiev. It was organized by the National Institute of Strategic Studies and the Center for the Study of Problems of European Security (Holland). Representatives of the General Staff of the Armed Forces of Ukraine, students of the Kiev Military Humanities Institute, and students and future political scientists of the Institute of International Relations of Kiev State University imeni Taras Shevchenko were all invited.

There was a mutual enrichment of information and an exchange of opinions among those attending the seminar regarding national security and protecting sovereignty and territorial integrity. We were interested in what sort of partner NATO sees in Ukraine within the system of European security.

Professor Piter Volten opened the seminar with his papers "The Theory of International Relations" and "New States. Power Politics or International Collaboration in a Multipolar World."

Recall the years of the Cold War, when enemies were clearly defined, among them some who are considered partners today. The border ran through the middle of Europe as well, dividing it into warring camps.

The military leadership of NATO has been able to reorient itself skillfully in the new situation, and has proposed a new strategic conceptual model to the governments of the member nations of the North Atlantic alliance.

The armed forces of the member nations of the alliance, in accordance with it, are to be cut back by 25 percent, and 45 percent in the central region. But the primary condition—the security of the member nations of the organization—remains unchanged.

The organizers of the seminar "The Theory and Structure of International Security" feel that Ukraine looks better compared to the other republics of the former Union through the kaleidoscope of events on the terrain of the CIS, but in the opinion of the chief of the department for problems of national security of the Academy of the Armed Forces of Ukraine, Colonel V. Kakhna, the western regions of Ukraine are gravitating toward Western Europe, and the eastern ones toward Russia. In the event of close collaboration of Ukraine with the East, Western Ukraine will have a negative attitude, while if Ukraine turns toward Europe, then the eastern regions would instead. The Autonomous Republic of Crimea will also be against it. And Russia does not want Ukraine to move away from it. It has not yet sunk in for quite a large majority of the population of Russia that Ukraine is an independent state. The big-and little-brother syndrome will thus hang over us for some time to come.

Ukraine, by virtue of its geographical position, is located in the middle of Europe where important trading routes

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run. Our state would inevitably become a buffer in joining some union. The interests of the states could differ fundamentally on some issues. That could possibly lead to a worsening of relations. Ukraine has thus declared itself to be a non-aligned nation, and is trying to pursue its own, independent policy. Western politicians are accusing Ukraine of exactly that, feeling that it has still not defined its strategic course.

But our wishes unfortunately do not always coincide with our capabilities. The policy, at first glance, is independent, but it nonetheless depends on many factors, both internal and external, both objective and subjective.

If the entire world, including Europe, has been divided into blocs, communities and unions, then it will be difficult to live in solitude. No one is certain that Ukraine, with its population of 52 million and a territory equal to France, will be able to remain non-aligned for a long time.

Such a state of uncertainty cannot last long. The problems that have accumulated are easier to solve together—that is what the organizers of the seminar feel. Ukraine is and will be signing various international treaties so as to realize its plans, for instance, connected with outer space. This will lead one way or another to closer collaboration, and it will be difficult to maintain neutrality in the future. Just as in personal life; when you have many neighbors, you have good relations with all, but closer ones with two or three. Life itself pushes you into an embrace or other community. We must seek friends, not enemies, today.

The seminar has concluded the first segment of the discussion of issues of international security. It was of interest to the officers and students who will soon, perhaps, be creating great policy.

International Seminar Held at Kiev Command & Control Institute

95UM0365D Kiev NARODNA ARMIYA in Ukrainian
23 Mar 95 p 1

[Article by NARODNA ARMIYA correspondent Lieutenant-Colonel Serhiy Chornous: "There Are Prophets in the Land Nonetheless—As Evidenced by the International Seminar at the Kiev Military Institute of Command, Control and Communications"]

[FBIS Translated Text] "The principal threat to Ukraine is internal problems," emphasized Dr. Oleksandr Rar, an analyst at the Research Institute of the German Union of Foreign Affairs, in his paper at the seminar "The Ukrainian Nation State—Interests and Threats."

An international seminar at this level was conducted for the first time within the walls of the former PPO [Air-Defense Forces] KVIRTU [Kiev Higher Engineering

Radiotechnical Institute], today the Kiev Military Institute of Command Control and Communications. Specialists from the General Staff of the Armed Forces of Ukraine, prominent military scientific and technical institutions of the Ministry of Defense of Ukraine, instructors and students from the Institute of International Relations of Kiev University imeni Taras Shevchenko, the Armed Forces Academy of Ukraine, the Academy of Foreign Affairs of Ukraine, the Kiev Military Humanities Institute, the faculties and departments of educational institutions and the civil and military educational systems all took active part in organizing and conducting the forum.

Presenting substantive papers at the seminar were Ukrainian Initiative Fund Vice President and head of the department of political sciences of the Institute of State Administration and Self-Government of the Cabinet of Ministers of Ukraine, Mykola Tomenko, Professor Dr. Koen Koch of the department of political science of the University of the city of Leiden (Netherlands), and senior academic associate of the Research Center of European Security (city of Groningen, Netherlands) Dr. Jost Herman. The joint paper of the chief consultants of the National Institute of Strategic Studies, Serhiy Zdioruko and Nataliya Lakiza-Sachuk, with Volodymyr Chumak, a department chief at that institute, and Colonel Heorhiy Kostenko, a deputy department chief at the Armed Forces Academy of Ukraine, was noteworthy for its depth of analysis, well-funded arguments and originality in the presentation of the problems. The participants in the seminar were at the level of world specialists in their level of informativeness and the scope of their ideas.

The participants in the seminar spoke different languages, but that did not keep them from reaching the same conclusion—Ukraine is an independent European nation, and what kind of Europe enters the third millennium depends on its positions.

The realities of the present day are such that Ukraine, like its great and powerful neighbor Russia, in the expression of Dr. Oleksandr Rar, is intertwined with the integration processes in Europe. If Russia has its own, special path, special relations with the countries of the European Union will gain particular significance in its subsequent fate.

Entry into NATO, however, is an extremely problematic matter for Ukraine today. The first obstacle is the economic problems. Significant funding, which is lacking, is required just for the transition of the Armed Forces of Ukraine to new standards.

Ukraine, as is well known, has not signed the Tashkent accord pertaining to a defensive union within the framework of the CIS. Ukraine will scarcely be able to enter the common European home elegantly and quickly, as opposed to the Baltic countries. The West has granted great credit to Estonia, Latvia and Lithuania for this purpose.

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The nations of the European Union are simply unable to make such a gift to Ukraine. The burden of assisting Ukraine by the West would undermine the economies of both the United States and the countries of Western Europe. Ukraine, as Dr. Oleksandr Rar pointed out in his paper, must thus count on its own resources first and foremost in the pursuit of economic reforms and the rebuilding of the economy, along with... close ties with Russia for quite a long period of time. The "Partnership for Peace," however, which Ukraine was among the first to join, the scholar feels, is a symbolic act that serves, first and foremost, more as moral support for the countries of Eastern Europe. The agreements of the participants in the Partnership obligate them to very little.

The scholars devoted a great deal of attention to a discussion of the problems surrounding the granting of a mandate to Ukraine to perform peacekeeping activities at "hot spots" in Europe. Such actions, aside from the political dividends, could also bring in considerable hard-currency profits. It is no accident, after all, that NATO and Russia are also seeking such a mandate from the UN.

The president of the Institute of European Security and Conversion and chairman of the council of organizations of Ukrainian veterans, General of the Army Ivan Herasimov, spoke at the conclusion: "Ukraine has paid quite a high price for peace; millions of our best young men lie on the battlefields of war. I thus agree wholeheartedly with those speakers who have stated that we should not seek new enemies, or focus our attention on what divides us. We need to build relations on principles of peace and harmony, and elevate everything that unites the state and the people.

"The international seminar has helped us to realize our national interests through the lens of the way Ukrainian problems are seen by prominent Western specialists. Who other than we, however, can know our problems better and more thoroughly? And who other than we can solve them? They say there are no prophets in one's own land. There are today in Ukraine, three years since the proclamation of independence, cries being heard for the restoration of the Union. These prominent Western specialists, however, are certain that Ukraine is a sovereign and independent nation, today and for centuries to come. That idea was a leitmotif of their presentations at the seminar.

"This gathering of scholars of Ukraine and Europe is a noteworthy milestone in the training of highly professional cadres and their access to world levels. But we should prevent the outflow of academic cadres and preserve the existing scientific potential of the state. Another important task was also accomplished during the seminar—to prove that we are an equal among equals. The West now understands and wants to help us understand how to say goodbye to the 'little brother' complex."

The upcoming seminar "The Security of the State and the Armed Forces" will also be held in Kiev. Prominent

scholars from Germany, Great Britain and other countries will be taking part in it, along with scholars of the military and civilian educational and scientific-research institutions of Ukraine.

Problems Affecting Flight Education, Approaches Thereto Discussed

95UM0375A Kiev NARODNA ARMIYA in Ukrainian
21 Mar 95 p 2

[Article by Candidate of Pedagogical Sciences Lieutenant-Colonel (Reserve) Oleksandr Makarenko under the rubric "Military Education: On the Path of Reforms": "Why Are We Forgetting the Scientific Approach?"]

[FBIS Translated Text] Lieutenant-Colonel (Reserve) Oleksandr Makarenko has been occupied with the problems of flight training for more than 20 years. Last year, before his discharge, he defended his candidate's dissertation, in which he substantiated the building of a system of training for military fliers using the conceptual principles of contemporary pedagogy and aviation psychology. Oleksandr Hryhorovych has appeared more than once in the pages of NARODNA ARMIYA with articles on the difficult situation that has taken shape in the system of general flight training for the Ukrainian Air Force. The author makes an attempt in this article to direct the attention of leaders, pedagogical scholars and practitioners to the problems of reforming the system of flight training, so as to avoid, he feels, the coming organized destruction of military aviation.

There is no doubt of the necessity and great significance of reforming the whole system of education in Ukraine in order to build a highly developed nation. But the way this is being done in military education, having in mind the training of pilots in particular, is eliciting great anxiety.

A blind copying of Western models of the system of training, in my opinion, is underway today. The efforts of aviation reformers are oriented only toward ensuring the nativization of the pilot's diploma in civilian spheres of production, science and culture. The most sacred thing—the formation of flight professionalism in the process of theoretical training—is being neglected therein.

The history of social transformations and reforms, theory and practice, as well as simple everyday experience, teach us that one can hope for positive consequences only when the following conditions are met:

- a comprehensive knowledge of the existing state of affairs, the general laws and mechanisms of the transformations, and a clear prediction of the results;
- the availability of qualified people to carry them out;
- the existence of the appropriate preconditions, situations and conditions.

Even a cursory analysis of the measures that are planned and have already been taken in flight training, however, allows us to conclude that none of these conditions have been fulfilled in this field, although the country has the necessary opportunities to do so.

The first condition envisages an understanding, from the very beginning, that among all of the possible structures for the system of flight training, the formation (provision for the formation) of the qualities of flight activity remains the strategically most important and fundamental one. Today's structure of the system (which was reflected in particular in the theoretization and engineeringization of training) is so artificial that the pilots have aptly christened it a clumsy attempt to teach them to fly using the training model of the tank or tractor driver—that is to say, the specific features of the professional activity of the pilot are poorly taken into account in the organization of his training. This characteristic automatically conditions an unsatisfactory evaluation of the training process using contemporary pedagogical notions for the design of training. This is sentencing the system of flight training to destruction, in other words, since we are talking about the pedagogical process, its main segment. All of the components of the system, after all, are reflected in it, and its status and functioning are defined by it. The structuring of a new training process, therefore, is a difficult task. We are talking about designing the formation process of the outlines of a complex human activity that is categorized in science as an operating activity to control complex ergonomic systems.

This thus forces us to apply the knowledge of a number of sciences (aside from those that are studied in flight training) that are allocated and subordinated to the fundamentals of the systematic pedagogical sciences. Pedagogical scholars, as well as psychologists and philosophers in pedagogical areas who are playing the chief (organizing and integrating) role, are engaged in inquiries in the field of pedagogical systems. At least 2–3 years of exceptionally organized work by a strong group of pedagogical scholars, developers and practitioners is required for this.

One must abandon ambitions here and say that such a collective cannot be created within the framework of the Air Force, since there are virtually none of the core personnel. They do exist in our young nation, however, although the reformers of flight training are making no effort to invite them to participate in joint work. They know about them in the United States and Canada, where they hear their lectures gratefully. There they are taking the top prizes in international competitions for their scientific work.

One could thus boldly assert that Ukraine has the ability to reform the system of flight training properly. It is precisely as a consequence of joint work by developers and practitioners from the Air Force with pedagogical scholars from civilian scientific structures that the most

complex and scientifically intensive portion of the work would be accomplished, the points of reference and mechanisms for the transformations outlined, the requirements for flight professionalism determined. Here is where the fundamental provisions of the conceptual framework of flight education would be formulated, the model of the pilot defined, and the primary pedagogical categories made concrete. It would be possible to begin the discussion of questions of the place of reforms and the system of flight training in the overall system of flight training from that moment on.

This preparatory work, however, has not been done, and the system of pilot training has been dictated by the strategy, tactics and even concrete steps of its transformation. Even the untrained eye can see their unpleasantness for aviation, since the specific features of the formation of the flight professional are not being taken into account. The assigned reformers for flight education have not seen this (and did not want to see it, or could not). The significance of the specific features of the formation of flight qualities is so large that a system of flight education can lay claim to the same status of independence as all of military education.

We perhaps have to be prepared to put the question this way, since today's situation does not encourage optimism, to put it mildly. Flight education could be entirely ruined in two or three years, if effective steps are not taken. The core of flight personnel that are the bearers of experience, training techniques and the soul of the aerial warrior, the very constitution of the pilot in a functional aviation system, will undoubtedly be lost over that time. There will moreover be no one to whom to transmit that experience.

There are many other specific features of training in aviation that non-flying people cannot understand, if only from the standpoint of common sense. Disaster is inevitable if the making of decisions on flight issues depends on them nonetheless. A report was made on Program I of Ukrainian radio on February 13, for example, that the conversion of the schools to piston aircraft is being planned. This is being done for purposes of fuel economy, that is, these aircraft consume one-tenth the fuel per hour of the jet aircraft that the cadets are training on today.

Pilots who have mastered complex modern hardware know from experience how unsafe such a decision is, when after schooling the young pilots have to train on the aircraft that are in service with the line units today. Many pilots said to me that it would not be difficult here to move to training using aerosleds.

It must be pointed out for the sake of fairness that we should not automatically jettison such proposals. Representatives of aviation interests should be able in that case to construct a spot model of a variation of a new training system at a professional level. To determine, that is, whether the total spending on pilot training will be less than it is today. If that is so (even though experience

teaches us the reverse), then it is necessary to make a detailed structure of the training process, including the practical mastery of aircraft, and an analysis of the correctness of the formation of the qualities of the pilot. And only after that, set about the purposeful design of the training process, having checked it out by experimental means.

Taking into account the specific features of the flight profession, as we see, makes it necessary to carry out a whole series of measures in a definite system of interconnections. So if the question of building a system of flight training is on the agenda today, it must be pursued not through the simple addition of disciplines to be studied, changes in the time allotted and the like, but *rather in the full form of the pedagogical design of the teaching process and the whole system of training using scientific principles.* We must halt the machinery of reform that has been started today and being the true scientific (!) study of all of the steps, first and foremost at the initial stages, where the conceptual elements are outlined, the organizational collectives are created and the like. The reforming of any system of training can and should proceed at the plane of pedagogical design. Nothing else is given. It is a pity but a fact that considering the current state of the system of flight training in the Air Force from this standpoint, nothing has yet been done to reform it.

The picture is the same with the organization of reform in the system of military education. One can judge this from the very substance of the draft "Military Education" Program. A whole series of questions arises, pertaining first of all to the organizational aspect of the development of this document.

The first question is, can an authors' group of six people develop a document of such scope, complexity, scientific sophistication and multiple levels at high quality? Certainly not! Particularly if one takes into account the fact that the principal work was assumed by one person—its leader.

World experience teaches us that a collective of scholars has to be engaged in the development of such documents, each of them having a team of his own developers, scholars and practitioners. In my opinion they ignored not only known experience, but also failed to fulfill the rudimentary conditions to ensure at least somewhat qualified work. One cannot hope for the satisfactory resolution of issues in the creation of the document that defines the organization of the pedagogical system of the MO (Ministry of Defense), after all, if academic specialists from pedagogy and pedagogical psychology are lacking among its developers. It is precisely they who must constitute the main core of the executors, not to mention the fact that the very conceptual foundations and the thorough expert analysis of all the work can be performed only by professionals in that field.

The unsubstantiated nature of the conceptual portion of the draft is apparent.

The draft Program indicates that "...military education is an inalienable part of overall state education..." This means that in the language of the general theory of systems, military education is a lower-order system or subsystem in relation to the system of general state education. So its concrete principles must be defined in order to build the subsystem.

The principles of the State National "Education" Program artificially transformed for military education are cited in this draft Program as the principles for its realization. One cannot carry out the pedagogical design of some educational and indoctrinational process or take the specific nature of the military into account with these program fundamentals. One must therefore define those principles in order to talk about the development of the Program "Military Education." This would promote its entire logical reworking according to those principles.

Difficulties arise here; that is, there is not sufficient military-pedagogical knowledge today that would permit the definition of such principles at the required scientific level. If we nonetheless consider military pedagogy as a developed science, then the draft Program must be entirely reworked in accordance with its principles. If we agree with the fact that military pedagogy today can be represented only as a list of problems (which, in my opinion, it in fact is), then chiefly the conceptual portion of the draft has to be reworked. In that case the section "Principles of Program Realization" is replaced by a section that reflects the problems of military pedagogy. This would make it necessary to strike the sections "The Substance of Military Education" and "Military-Patriotic Indoctrination in the System of Military Education" in the conceptual portion. The rest of the sections require certain clarifications in conformity with the changes in the section on the conceptual fundamentals.

But whatever path the development of the conceptual portion of the draft Program may take, can we not say today whether the delineation of flight training into an organizationally separate system of education is expedient? The best option is undoubtedly a unified system of training for cadre military personnel. That is in theory, however. The answer to this question is determined by and large in the concluding stages of the preparation of the draft, and ultimately only after the completion of coordination and clarifications in the development of the structure of the system of flight training.

I would like to stress in conclusion the global significance of the "Military Education" Program. It is a program document for the building of military education that has a direct impact and determines the state of military science, the intellectual potential of the Armed Forces, the military-professional level and its cadre composition. There is no need to talk about the fact that the defensive capability of the state and the readiness of its Armed Forces depend on it as well. One would thus like to hope that both the MO and the commanders of the branches of the Armed Forces of Ukraine will devote particular attention to the preparation of the "Military Education" Program.

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ARMS TRADE

Ukrainian Exhibits at Abu-Dhabi Arms Fair

Ministers Discuss Industry Development, Cooperation With Russia

95UM0372A Kiev NARODNA ARMIYA in Ukrainian
29 Mar 95 p 1

[Article by NARODNA ARMIYA correspondent Lieutenant-Colonel Oleh Vachayev: "A Successful Debut"]

[FBIS Translated Text] NARODNA ARMIYA has already reported that the IDEX-95 exhibition of arms and military hardware was held in the city of Abu-Dhabi (United Arab Emirates), and close to 40 nations and 500 leading firms and companies from around the world took part in it. Ukraine had its own exposition there for the first time, with 450 displays. The debut of our state at the exhibition, considered to be the most authoritative and prestigious of international functions of this type, was entirely successful. A press conference was held on the details, during which journalists met with Vice Prime Minister and Minister of Defense of Ukraine Valeriy Shmarov (who headed the Ukrainian delegation), Minister of Machine Building, the VPK [Military Industrial Complex] and Conversion Viktor Petrov, and his deputy Valeriy Kozlov.

The appearance of our own Ukrainian exposition, as Valeriy Shmarov indicated, was to a certain extent unexpected for those who have an interest in the development of weaponry and military hardware around the world, and even elicited a bit of excitement among the participants in the exhibition. That could be considered the main event regarding the participation of Ukraine in IDEX-95. The Ukrainians conducted some 840 negotiations during the exhibition, of which 158 had concrete substance (discussing intentions) and 56 were at the level of preliminary agreements. The greatest interest was in the modernization of tanks and in materials science and shipbuilding, as well as aviation batteries and repair services for military hardware.

As for concrete agreements, as is well known exhibitions of this type have a somewhat different aim—to familiarize producers of weaponry and military hardware with the latest achievements in their fields, to establish ties or, as they say, to shop around. Contracts are thus hardly ever signed at exhibitions, even though some of the displays in the Ukrainian exposition were offered for sale of the spot, since there was no restriction on it.

The demonstration appearances of the T-84 and modernized T-72 tanks at the Makatra proving ground were of the greatest interest to journalists. Assertions of the Russian mass media were cited in particular that there had been no live firings of the T-84 because the tank uses ammunition manufactured in Russia.

The Minister of Defense of Ukraine explained that there were two Ukrainian and two Russian tanks among the

physical displays at the exhibition. It was agreed back during the coordination of the program that our vehicles would take part in driving and operations under difficult desert conditions. The Ukrainians, at the same time, refused to take part in the live firings, feeling that it would be improper to a certain extent for two nations that are exhibiting vehicles of similar types to compete in questions of firing. The ammunition is licensed and produced in Ukraine.

Continuing the subject of military-technical cooperation—particularly with Russia—at the request of the correspondent from NARODNA ARMIYA, Valeriy Shmarov indicated that the pavilions of Ukraine and Russia were located almost right next to each other at the exhibition. There was extensive cooperation not only between the heads of the delegations of both countries, but all of the specialists as well. We summarized results and determined areas of further collaboration. The exhibition itself brought us once more to the necessity of future cooperation. It is fated, after all, as they say. No one would doubt the fact that no state is able to create all weapons itself. Taking that route would be absurd, the more so taking into account the grave economic situation both in Russia and in Ukraine. We thus had an opportunity to discuss once more areas of cooperation and collaboration with the participation of developers, designers and producers.

Cooperation with Russia is the most historically broad. We are thus turning more and more to the ordinary cooperation that has taken shape in order to ensure the operation and modernization of the hardware that is in service with the Armed Forces of Ukraine today.

We are trying, simultaneously, to localize to the maximum extent the process of the development and production of weaponry, emphasized Valeriy Shmarov. One such area is the production of components for tank and artillery weaponry. The gun for the T-84 tank, for example, was developed and manufactured in Ukraine.

Valeriy Shmarov reported that many specialists emphasized during the exhibition that Ukraine made a precise calculation when it brought a modernized T-72 and a T-84 tank to Abu-Dhabi. The T-84 tank has a diesel engine replacing a gas turbine engine, which does not behave very reliably in sand, and the modernized T-72 has an engine almost twice as powerful as it used to have. The T-72 is the most widespread tank in the world, after all; this opens up prospects for its sale.

Our hardware at the exhibition was no worse than that of the models from other countries, and was even better in some parameters, as the journalists who studied a video report of the demonstration appearances were convinced. Looking to the future, Ukraine, in the opinion of the participants in the press conference, will have to display a finished product, so to speak, at exhibitions of this type, one that is already in service and on the production line. The more so as the world arms market is oversaturated, and great competition swirls in it.

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The direction of modernizing already existing models—which, strictly speaking, Ukraine did indeed try to demonstrate at its exposition—is thus the most efficient and high-priority way to go.

The state has great industrial potential for this purpose. Will the process of privatization that has now been launched in Ukraine hinder the development of the VPK? Many of our enterprises are in difficult straits, indicated Valeriy Shmarov, under the extraordinary budgetary limitations on the procurements of products for military purposes. The state, in the minister's opinion, thus does not have the capability of financing the enterprises of the VPK and should grant them the right to determine their own fate for themselves. We have, on the other hand, sent to the Cabinet of Ministers a list of enterprises that are not subject to privatization; it was later approved by the government and forwarded to the Supreme Soviet. This is several dozen enterprises.

The participants in the press conference answered other questions as well. Valeriy Shmarov, touching on the fate of the defense budget of the state, indicated that it was minimized to a significant extent right from the stage of its formulation, proceeding from its income portion. Work on the draft budget is underway in the Supreme Soviet today, and there have unfortunately been attempts to cut it back to an even greater extent. I think that this would be a very big mistake, since we could cross a line beyond which the Armed Forces would cease to be capable, emphasized Valeriy Shmarov.

The requirements of the Armed Forces have also been satisfied by only 25–30 percent over the last three years—that is, just barely enough for pay and the maintenance in a suitable state and modernization of hardware and weaponry.

The news was also not very optimistic regarding the aircraft-carrying cruiser Varyah. The negotiations with Russia, as the prime customer in the past, have come to naught. It was at least affirmed on the part of Russia, at the last meeting with Vice Prime Minister of the Russian Federation Oleg Soskovets, that the cruiser will in all likelihood not be completed.

Valeriy Shmarov indicated, with reference to the impending visit to Ukraine of U.S. Secretary of Defense W. Perry, that consultations are needed regarding the fulfillment of treaties for the development and realization of the obligations of Ukraine and the United States pertaining to disarmament and the realization of the Nunn-Lugar fund program. It must be said that the United States is fulfilling all agreements. Ukraine for its part is raising the issue of redirecting the funds that the Americans are sending exclusively for disarmament toward social protections for the servicemen who are being cut back.

Ukraine Has Wherewithal for International Market

95UM0372B Kiev NARODNA ARMIYA in Ukrainian
4 Apr 95 pp 1-2

[Article by Lieutenant-Colonel Anatoliy Murakhovskyy of the press service of the Ministry of Defense of Ukraine, Kiev—Abu Dhabi—Kiev: "Ukraine Has Something To Trade in the World Arms Market"]

[FBIS Translated Text] An international exhibition of weaponry and military hardware was held from March 19 through 23 in Abu Dhabi, the capital of the United Arab Emirates. Our nation gained access to the world arms marketplace for the first time, and demonstrated an ability to define its place in the crowded ranks of the highly developed countries of the world under difficult political competition.

Exhibitions such as this IDEX are held once every two years. This time the UAE assumed the entire burden of organizing and conducting the exhibition. More than 40 nations were assembled to participate. Abu-Dhabi put the organization of the exhibition at the highest level. One may conclude from that alone how well-developed and rich this nation is.

The UAE became acquainted with our country during an official visit by Leonid Danylovych Kuchma when he held the post of prime minister. The country has had a sympathetic attitude toward Ukraine ever since. Perhaps the very feeling of respect for our nation induced them to invite Ukraine to take part in IDEX-95. The Arab Brigadier General Sultan al Suweidi, head of the organizing committee for the arms exhibition, assisted this in every way.

Vice Prime Minister and Minister of Defense of Ukraine Valeriy Shmarov, who headed the delegation from our nation, sincerely thanked the general for his support and palpable assistance.

IDEX-95 had a considerable impact on the population of Abu-Dhabi, since the number of visitors to the exhibition grew by 40,000 people. The prices for hotel services jumped by 5–6 times; the market is the market. On the eve of the opening of the exhibition, for several scorching days, intensive work was underway around the pavilion to set up the exhibition. Representatives of the Ministry of Machine Building, the Military-Industrial Complex and Conversion, which was represented by many sector enterprises and firms under the leadership of the chairman of the working group of the organizing committee, Deputy Minister of Machine Building Valeriy Kozakov, and the director of the Ukrainian exposition, Ukrinmash Deputy General Director Viktor Korenkov, unpacked dozens and hundreds of boxes and prepared the exhibition displays. Our exposition was located next to the products of Bulgaria, Canada and Great Britain in the spacious and comfortably cooled pavilion.

Ukraine, as opposed to the other participating nations, was pursuing a more concrete and serious purpose.

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While the traditional producers of weaponry exhibited commercial models of military products for demonstration and had as their aim to sell more of them for more money, we were presenting for inspection and study the entire complex of scientific, technological and production capabilities of Ukraine. The comprehensiveness of our exposition allowed us to demonstrate to the world what is new in the fields of shipbuilding, the production of combat and space missiles and rockets, and our achievements in the spheres of radio engineering, radar and high-precision gear, among others.

The Ministry of Defense featured its repair enterprises, which number approximately 40 within the system of the military department. They are able to repair and upgrade all models of weaponry and military hardware that were produced in the former Soviet Union. It is well known that many nations, especially in the Near East, are using precisely that weaponry. And their policy today is not the acquisition of new models of weaponry, but rather the preservation and upgrading of what they already have. Ukraine hit the mark in demonstrating its capabilities for performing that work at the IDEX, since many orders have usually gone to Moscow, which is not able to carry them all out. These orders have not been coming to Ukraine. We hope that the situation will change from now on. Lieutenant-Colonel Vasyl Zahaynov, who handled this assignment marvelously, was the chief salesman in this matter.

Only Great Britain, aside from Ukraine, presented the system of military education. But the interest in our military-educational institutions was, in my opinion, a great deal higher nonetheless. Colonel Oleh Zuyev, the representative from the Directorate for Military Education of the Ministry of Defense, handed out dozens of advertising prospectuses. I will cite a few examples so as to convey the unique and even exclusive nature of our national product, with which we should not only not be ashamed to enter the world markets, but which is even able to pull the Ukrainian economy out of the hole of debt and put the state on its feet in general.

The Rytm intersector scientific-research institute is engaged in the development of elements of navigational and guidance systems for all moving objects. It offered accelerometers, pressure sensors and power sources that are in no way inferior in technical features to their American analogues. It is interesting that only Ukraine has a closed production cycle for such instruments. Biotransformers and the sources for them are an outright priority for our country. And we are able to convert all of this on-board electronics gear to biotransformers, thereby reducing its volume and weight. Taking into account that power sources currently take up, as a rule, some 30 percent of the weight of radio gear, one can imagine how far the science and technology of Ukraine have progressed. We are clearly ahead of Japan and the United States in this.

It is also worth noting that there was almost no one among the visitors to the exhibition who was simply a

curious person who came to spend some time. The expositions are seriously studied by highly skilled specialists and military personnel with quite specific aims. Even the journalists who came to cover these events tried to dig down into the nuances of production technology.

The homing head for a surface-to-air missile elicited particular interest. Ukraine has outstripped many European countries in this field.

Instrument building. This field was an unexpected discovery for the visitors. I would point out, however, that the Hetman Sahaydachnyy, which was berthed at the port of Zayid and represented the national shipbuilding industry, is fitted with Russian-made navigational instruments. Our country is also able to manufacture them, however. The national enterprises have had an opportunity to become more familiar with each other, and are now able to assemble their own products manufactured in their own nations.

The exhibition was convincing that Ukraine continues to hold the position of leader in the production of passive radio monitoring stations and radio jamming systems for both tactical and operational levels. This was studied around our displays by representatives of the United States, England, France, Germany, Turkey, Egypt, Italy and many other nations.

The products of the Muson concern in Sevastopol are emergency radio buoys that operate in the Cospar-Sarsat system and radar transponders. They are being tested at the international certification center in London today. A radio buoy is an instrument that is able to transmit information with the coordinates of a vessel in an emergency from any point on the ocean. It operates in automatic mode and, if the ship begins to sink, floats from a depth of 3-4 meters and independently transmits a signal to a satellite, and on from there by relay to a base station.

The Pikhta naval radio set interested representatives of the Kuwaiti postal and telegraph system from the very beginning. They are using Motorola radio sets there today, but they are twice as expensive as our Pikhta.

And what about a sound-measuring artillery reconnaissance system? It is unique once again. The system is a passive one that is not detectable by satellite radar gear, and is able to issue the precise coordinates of a target for its destruction within three seconds after the firing of a cannon or tank.

The Ukrainian exposition at the exhibition included 487 displays in all, representing 53 scientific and production enterprises. They all elicited great interest and helped to do more than just represent our national products; they were also good propaganda for our country as a whole.

There were also interesting events at the tank arena every day, aside from the events at the pavilions themselves; 12 of the participating nations demonstrated their motor

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vehicles, special and armored products there. The Ukrainian vehicles operated effectively on the demonstration runs, including a modernized T-72 tank with an installed engine of 1,200 horsepower and the latest innovation of Ukrainian tank building, the T-84. Our tank, as opposed to the Russian T-80, has an all-purpose diesel engine that has more endurance and is more economical, especially under desert conditions. A Ukrainian welded turret has been mounted on the T-84 that is 15–20 percent stronger than the one manufactured using the casting method. The tank's weaponry is also of Ukrainian manufacture. The 84, in short, is an entirely Ukrainian tank. It lifted even the most melancholy observers from their seats when it drove out to the tank arena.

The organizers of the exhibition were unfortunately not able to build a special obstacle that we had ordered, a ditch two meters deep and six meters long filled with water. Our tank crosses such an obstacle without any additional preparation.

The visit to the UAE by a Ukrainian government delegation headed by Vice Prime Minister and Minister of Defense of Ukraine Valeriy Shmarov was a substantial addition to the participation of Ukraine in the exhibition. Many negotiations and meetings were held, and the signing of an international agreement on trade, technical and economic cooperation was signed at the Ministry of Foreign Affairs of the OAE between our countries. It was signed for Ukraine by Minister of Machine Building, the Military-Industrial Complex and Conversion Viktor Petrov.

We have substantial reason overall to hope that IDEX will turn the pointer of world orders in defense production in the direction of Ukraine. There were 840 consultations in the pavilions of the Ukrainian exposition, of which 158 dealt with concrete issues and had substantive content, and 56 negotiations took the form of pre-contract preparations.

Serious orders have been long awaited at the enterprises of the defense complex, where they have been able to preserve the unique potential of the state with great difficulty today thanks to the enthusiasm of the people.

The next IDEX will be held in the UAE on 16-20 March 1997. One would like to believe that Ukraine, which has already received an invitation to that exhibition, will go to it enriched by experience and with a stronger economy.

Edict Seen Affecting Arms, Military Trade

95UM0377A *Almaty PANORAMA in Russian*
No 13, 1 Apr 95 p 1

[Unattributed article: "Edict of the President on Liberalization of Foreign Economic Activity Will Partially Effect the Export and Import of Military Equipment and Arms"]

[FBIS Translated Text] In mid-March, carrying out the edict of the President from 11 January 1993 on the liberalization of foreign economic activity, the Cabinet of Ministers passed a decree that recognized its own decisions on the export and import of military equipment and arms as being without effect and also making an addendum to it.

As far as is known to PANORAMA, the decision in question made by the previous cabinet of Sergey Tereshchenko proposed the sale of obsolete army equipment and property through a specific state foreign trade company. But since it cannot be a matter of a disruption of the monopoly of the Ministry of Defense in this area, it is natural to presume that what is being terminated is the monopoly of precisely the company in question to present a commercial agent in foreign operations.

Here it does not appear expedient to repeal a second decision made in November by the cabinet of Akezhan Kazhegeldin, which introduced the addendum that obsolete equipment and property must be presented in the form of specific models and also scrap ferrous and nonferrous metals (for the notion of "obsolete military equipment" may be treated very broadly).

DEFENSE INDUSTRY & CONVERSION

Commentaries on Duma Hearings on Future of Aviation Industry

95UM0385A *Moscow KRSNAYA ZVEZDA in Russian*
7 Apr 95 p 4

[Articles by Anatoliy Gennadyevich Bratukhin, deputy chairman of the RF State Committee for the Defense Industry; Anatoliy Alekseyevich Belosvet, deputy chief designer of the MiG ANPK [Aviation Scientific-Production Complex]; Genrikh Vasilyevich Novozhilov, chief designer of the Ilyushin Aviation Complex; Colonel-General of Aviation Mikhail Vladimirovich Sorok, deputy commander-in-chief of the Russian Air Force; and, Stepan Stepanovich Sulakshin, chairman of the State Duma Subcommittee on the Military Industrial Complex, under the rubric: "Parliamentary Hearings": "The Flight into the Market: Won't It End in Catastrophe for Russian Aircraft Builders"]

[FBIS Translated Text] As we already reported, the State Duma Committee for Industry, Construction, Transportation and Energy conducted parliamentary hearings "Russia's Aircraft Industry. Its State and Ways to Revive It". Practically all chief designers and principal directors of aviation design bureaus, scientific research institutes, plants and also representatives of the administration of the President and the Russian Government, the Ministry of Defense, and the State Committee for the Defense Industry, and other interested ministries and departments participated in them.

We requested that the following people express their point of view on the issues discussed at the hearings: Anatoliy

Gennadyevich Bratukhin, deputy chairman of the RF State Committee for the Defense Industry; Anatoliy Alekseyevich Belosvet, deputy chief designer of the MiG ANPK [Aviation Scientific-Production Complex]; Gennrikh Vasilyevich Novozhilov, chief designer of the Ilyushin Aviation Complex; Colonel-General of Aviation Mikhail Vladimirovich Sorok, deputy commander-in-chief of the Russian Air Force; and, Stepan Stepanovich Sulakshin, chairman of the State Duma Subcommittee on the Military Industrial Complex.

Anatoliy Bratukhin: The Situation Is Difficult but Not Hopeless

The Russian aircraft industry is more than 300 plants, design bureaus and institutes where approximately 800,000 people work. Another more than three million jobs are provided in the subcontractor sectors.

Until 1992, 80 percent of the aviation industry's capacity was directed toward the development and series production of military aircraft. When the volume of military orders both for science and for series production was reduced by 70 percent in one year, the question arose about the existence of Russia's unique aviation complex as such. Under these conditions, scientists of the sector, jointly with representatives of interested ministries and departments, developed a federal civil aircraft development program until the year 2000.

The Russian Government and the former Russian Federation Supreme Soviet approved it. This program envisioned financing the conduct of scientific-research and experimental design work from the state budget and also the allocation of resources to the Ministry of Transportation to acquire new aircraft.

The first two years of the program were completely carried out. During this period, the Il-96-300 long-range aircraft was certified, series production was begun at the Voronezh Aircraft Plant, the main work for certification of the Tu-204 medium-range aircraft was completed and series production was begun at Ulyanovsk Aviation Complex and Kazan Aircraft Plant, work has continued on the Il-96M long-range aircraft for 380 passengers (the Design Bureau imeni Ilyushin already has orders for more than 30 of these aircraft), the Tu-334 short-range aircraft, the Il-114 and An-38 aircraft for local airlines, thorough modernization of the Yak-42 airliner, development of the new generation Il-76 aircraft with the PS-90 engine, the Be-200 amphibious aircraft, and other aircraft.

Furthermore, the Mi-26, the largest helicopter in the world with a cargo capacity of 20 tonnes, was certified within the framework of the program, work continued on the new generation Mi-38 and Ka-62 multi-mission helicopters which are distinguished by their large saturation of polymer composite structures (more than 50 percent of the weight of the airframe).

But last year, the separate funding line for the federal aircraft development program was eliminated from the

budget. Scientific-research and experimental design work on the program in the amount of one trillion, 200 billion rubles was already continued by us within the framework of Ministry of Science programs. They planned to allocate R410 billion for this purpose but it actually turned out to be R250 billion which permitted the completion of only the certification of the Tu-204 aircraft from affiliate work.

A total of only R425 billion is being allocated in the current year's budget for the realized civil aircraft development programs. I will note that only one program for honing the engine life of the PS-90 engine will require approximately R70 billion. And we still have to repay debts to the design bureaus and institutes for last year which total a large sum—R160 billion.

Today many series production plants are operating only one shift and not even a full week due to the lack of working capital. The Ministry of Defense's debts for delivered equipment for last year has still not been paid. The State Military Order for the current year has not been disseminated to the plants. In a word, the situation is difficult but we would like to hope that it is not hopeless. Practically all of our plants are conducting aggressive work for the export of military aircraft, the development of powerful financial-industrial groups based upon aviation firms, and the attraction of non-budget resources for the realization of promising designs to preserve jobs and therefore to preserve the scientific-technical and production potential of the aircraft industry.

Anatoliy Belosvet: Don't Bury Us Before Our Time

During the course of our entire history, our firm has been involved with military aircraft. And only military. Approximately 60,000 fighter aircraft of the MiG family were built and approximately 6,000 were sold abroad.

During the postwar years, destructive blows were inflicted many times on military aviation. Khrushchev's 1960 blow was the most powerful. Twenty years were required for us to restore ourselves and to create those aircraft with which the country prides itself right now. I have in mind first of all the MiG-29 fighter aircraft. It will be very sad if we once again find ourselves cast back two decades as a result of the current blow.

At the same time, you shouldn't bury us before our time. The MiG Aviation Scientific-Production Complex, even in the current extremely difficult economic situation, continues to develop super-modern models of aircraft. Confirmation of that is the latest fifth-generation fighter aircraft that we plan to fly into the air in the near future. It is already at the airfield, it is taxiing, it is completing speed runs on the ground and so forth. Relying on the support and assistance of the Air Force, we intend to conduct its flight tests on time and in full.

Besides fighter aircraft, we will roll out the MiG-AT, the latest trainer aircraft, for flight tests in the near future.

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Based upon our assessments, it will have good export prospects, first of all because it has unique capabilities and flight-technical specifications. There is a very large market for aircraft of this class.

It is important to note that the MiG-AT has been put into series production at Moscow Aviation Production Association, without waiting for the beginning of flight tests which will permit us to provide deliveries of significant shipments of this aircraft to customers already in 1996.

I would especially like to talk about the export of aircraft. It is known that aircraft make up approximately 80-85 percent of the total volume of military exports. A ruble of Mikoyan production yielded \$6.50 U.S. in 1993 and R10—in 1994 (keeping in mind the contracts which were concluded with Malaysia and India).

We are also devoting a great deal of attention to the modernization of series produced fighter aircraft that have recommended themselves well. So, as a result of the thorough modernization of the MiG-29, we managed to actually develop a qualitatively new fourth and a-half-generation aircraft—the MiG-29M. During operations against ground-based targets, its combat potential was raised by approximately a factor of four in comparison to the base aircraft. That is, 10 aircraft instead of 40 are needed for one and the same operation. There's savings for you.

We are saying a lot about the fact that our financial capabilities are very limited and at the same time we are spending money in an extremely irrational manner. For example, right now the Americans have directed the lion's share of resources toward the realization of the B-2 and F-22 programs. Obviously, they are so poor that they are incapable of dragging many programs along. In our country, resources are being dispersed on many projects at the same time—the MiG-29M, MiG-31M, Su-27M, Su-27IB, Su-27K, MFI, our new fighter aircraft—and the T-60. And as a result, not a single program will be completed.

It seems to me that we need to create an independent commission that would investigate which projects must be priority and which ones we can reject. Only under that approach will we be able to realize those super-powerful developments in series production models that the aviation firms have in their portfolios.

Stepan Sulakshin: Concern About Aviation—This Is a Concern About Russia's National Interests

What's happening? Why has one of the most prestigious spheres of science and technology found itself in such a poverty-stricken condition? If we call a spade a spade, the matter is first of all in the anti-national economic policy which, from the point of view of the country's loss of potential and future capabilities in aviation, is manifested more graphically than anywhere else and for

which, besides everything else, we are going to pay already with the lives of our fellow countrymen.

What do the 30 hours of flying time of a Russian pilot signify as compared to the 200 flying hours of an American pilot? What does it mean when there is under-financing from the state budget of operating organizations of civil aviation and the institutes that are responsible for flight safety and certification of aircraft? That means that the accident rate in civil aviation and in the Air Force which, beginning since 1993, has moved sharply upward, will come out on a trajectory of the destruction of the entire system.

In my view, the country's current economic policy is thoroughly and systematically erroneous and dangerous from the point of view of national interests, national security and a reduction of the standard of living of Russians below the critical level. This is a question of aviation but this policy also threatens technological catastrophes in other scientific-intensive sectors of industry. Under-financing in the nuclear complex, for example, dramatically increases the possibility of such global tragedies like the Chernobyl accident.

Understanding our responsibility for the future of Russian science and industry, our committee has advanced an initiative to adopt a federal law "On Ensuring the Protection of the Russian Federation's National Interests in the Sectors of Science, Technology and Industry That Are Significant for Defense", that is, in those spheres that ensure the country's strategic independence and security. The draft of this law has already been prepared. It assigns the task of defining the doctrinal principles of state policy.

What are these principles? The preservation of the country's potential that was attained by preceding generations; surpassing development of the leading sectors that determine the country's scientific-technical progress; work on the development of a reserve for the future with its sight set on 10-20-25 years ahead but not only for closing loopholes on non-payments for utilities as it occurs today; the principle of self-sufficiency, etc.

In our view, we must include electronics, nuclear power and fissionable materials, aircraft construction and cosmonautics, information and telecommunications, shipbuilding, special transportation, special materials technology and technologies among the priority sectors of science and industry. The country cannot permit itself to lag behind the world level in these positions. We can resolve this task only under a coordinated state policy, precise coordination of actions of various departments and organs of executive power; and, target-oriented financing when aviation, electronics, etc., are written into the budget as a separate budget line item.

Furthermore, it seems advisable to me to form a team of governors, heads of spheres with the developed aviation industry, directors, chief designers and leaders of leading aviation institutes and design bureaus, and deputies of

the State Duma for a meeting with the President of Russia to work out decisions that provide, not in words but in deeds, state support of the aircraft manufacturing industry, and other sectors of science and technology that are significant for defense.

Colonel-General of Aviation Mikhail Sorok: The Loss of Military Aviation's Combat Capability Could Become a Reality

During the last two years, the effective strength of Russian Armed Forces aviation has been reduced by approximately 40 percent. Approximately half of the aircraft fleet consists of second and third generation aircraft and helicopters, a large portion of which will totally deplete their service lives in the period of 2000-2005. The most serious situation is developing in the Air Force's frontal and military transport aviation and in Ground Forces and Naval aviation.

Our combat aviation has never before found itself in such a poverty-stricken situation. The country found money for aviation even in the difficult postwar years when we had to raise the economy that had been destroyed by the war, when the domestic nuclear submarine fleet was being developed, when the Strategic Missile Forces were created, and when space was conquered. The following figures speak more convincingly about this than words. In 1952, the aviation industry completed series production of 6,273 aircraft (6,685 aircraft and 38 helicopters) for the Armed Forces, primarily jet aircraft. In 1954—5,617 aircraft (5,500 aircraft and 117 helicopters).

Today while taking into account the reform and reduction of the Army, the Armed Forces' annual aircraft requirements are assessed at 250-300 aircraft per year. Last year, existing financial capabilities permitted the purchase of only 32 aircraft.

Due to the inadequate supply of aircraft equipment, including engines, spare parts, and fuel, a significant portion of the aircraft are standing idle. All of this has resulted in the fact that a pilot's average annual flying hours total 25-30 hours, that is, 17-20 percent of the minimum necessary to maintain a previously attained level of combat skill.

Superimpose on this the unsettled state of the everyday lives of military aviators and totally inadequate salaries for their labors and you understand in what conditions they have to ensure guaranteed protection of the air borders and the accomplishment of other missions today. We have pilots fighting in Chechnya, half of whom do not have apartments. But we do not know of a single case when one of them refused to carry out an order or issued an ultimatum—give me an apartment and then I'll fly. They all say: give us a little more kerosene so that we can more reliably employ the aircraft.

A critical situation is developing not only with aircraft but also with ground support equipment and maintaining airfields in a combat ready state.

At the end of 1994, the Ministry of Finance owed more than R800 billion to the Air Force as the general customer of military aircraft. Besides the reduction of the absolute amounts of appropriations and contrary to logic, a structural change of the financing of the development of military aviation is occurring which is in no way compatible with world trends. Today we already face the threat of the reduction of the combat capabilities of aviation formations below the critical level, the loss of scientific-intensive aviation technologies, the complete termination of the developments of priority promising models of aircraft and weapons, including a long-range bomber, a fifth generation fighter aircraft, a frontal aviation reconnaissance aircraft, and other aircraft.

I do not know specific culprits for this situation but I am deeply convinced that the primary cause consists of the criminally negligent organization of management activities in the country. At the present time, the State Duma Committee for Industry, Construction, Transportation and Energy has prepared a draft federal law "On Ensuring the Protection of the Russian Federation's National Interests in the Priority Spheres of Science and Technology". Furthermore, in our view laws need to be adopted that regulate the activities of state structures, the Ministry of Defense, and industry on issues of the state defense order, that define the status of enterprises and organizations that fulfill the state defense order and that provide monitoring of the export of arms and military equipment. We must put an end to economic bacchanalia and chaos.

Genrikh Novozhilov: The Appropriate Conditions Must Be Created for Those Who Want To and Can Work

We can judge the scientific-technical potential of the state based upon the state of affairs in the aviation industry. Since the decline of industrial production in our country totaled more than 20 percent last year, it's clear that today aviation is on the verge of total collapse. Unfortunately, this is not an exaggeration but a fact that the heads of design bureaus and the directors of plants can confirm.

At the same time, we continue to operate despite all of the difficulties. In 1992, our design bureau certified the Il-96-300 long-range aircraft for 300 passengers. This aircraft, based upon fuel consumption per transportation productivity unit, that is, per passenger-kilometer, is two times better than the Il-62 aircraft which has been honorably serving the Civil Air Fleet for 30 years. These aircraft are being produced in Voronezh. There are customers for them. And, although today the plant is operating two shifts and even on Saturday, it is experiencing enormous difficulties in working capital.

Providing state financial leasing and the purchase of new aircraft is a key issue for us today. We need to explain to everyone the simple truth that if we don't purchase our own aircraft, sooner or later we will be compelled to purchase foreign aircraft. For many long years the country has been losing the aircraft market which it previously had.

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Our respected politicians talk about the fact that we must cooperate with America but we, the designers, workers and engineers, are demonstrating that we can not simply cooperate but work together. Specific confirmation of that is the Russian-American Il-96M long-range airliner. Pratt & Whitney engines and Collins avionics have been installed on it. Altogether we are working with 20 Western companies that have spent more than \$100 million on this cooperation by giving us engines and equipment.

At the present time, work is being conducted on the certification of the Il-96M based upon American flight worthiness standards. In the process, our aircraft is being utilized as a system, with the assistance of which foreign experts will be able to determine how we certify aircraft, based upon which standards, and on what legal basis. In the process, according to the big picture, Ilyushin workers are working for all Russia. If we manage to complete this matter and the appropriate agreements are signed, this agreement on recognizing the flight worthiness certificate will be extended to all Russian aircraft manufacturing firms.

You may ask, is anyone supporting us in this? Some are supporting us but very weakly. We don't sense proper support for the certification of the Il-114 aircraft that is so needed by local airlines today. This aircraft has already been developed and is in series production at Tashkent Aircraft Plant with which we intend to combine on an interstate basis.

Although our aviation complex has all types of aircraft in series production—transport, wide-body long-range, an aircraft for local airlines and a small trainer aircraft, nevertheless the problem of the drain of skilled cadres is very urgent for us. As of today, we have lost approximately half of our strength. Tell me, who of the young talented designers and engineers will work for an average salary of R280,000-290,000.

I would like to say a few words about taxes. You can't call those taxes that we pay anything else but one-sided. It turns out that we return to the state in the form of various taxes a large portion of the amount that is being sent to our programs according to state policy. If we finally want serious investors to appear in our country, we need to establish those taxes so that it is profitable to invest money in industry, including, of course, in the aviation industry. We cannot form the income portion of the budget at the expense of the destruction of that which our people have always been proud.

Our firm can compete in honest competition with any of the world's aircraft manufacturing companies. But to do that, the state must support those who want to and know how to work.

REQUIRED AFTERWORD

We need to save the aviation industry. It is this idea that was the leitmotif of the hearings conducted in the Duma.

We are tired of waiting for favors from the budget, Oleg Lisin, head of "Rybinskiye motory" [Rybinskiy Motors] AO [Stock Company] noted at the hearings. We need to attempt to survive by ourselves. Perhaps today engine builders have no other path. They cannot especially count on state support.

Social tension is increasing in labor and design collectives. Today remote prospects do not worry people very much. They ask when there will be paid and not what will we do tomorrow, noted Valentin Klimov, ANTK imeni Tupolev principal director.

The impression is such that the government, due to the very complicated management system, is simply incapable of managing the situation, thinks Leonid Shkalov, TsAGI [Central Aero-Hydrodynamics Institute] deputy director. How can we not support an industry that yields a profit even in the current difficult situation. For each budget ruble in 1993, the state received R1 76 kopeks worth of production and R1 69 kopeks worth of production in 1994.

The picture is an unhappy one. But something engenders a definite optimism because, as they say, the aircraft builders don't intend to give up without a fight. They are looking for and are increasingly finding their own ways out of the difficult economic situation. State Duma deputies are promising them all kinds of support in the matter of the preservation of Russia's unique aircraft manufacturing complex.

Defense Industry and Science Group

Vympel Missile Design Bureau's Sokolovskiy Interviewed

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[Interview of Gennadiy A. Sokolovskiy by Mikhail Rebrov, place and time not given: "An Idea Factory Makes the Most Expensive Goods"; "Thus Did the General Designer of the 'Vympel' Design Bureau Define the Topic of Conversation With Our Correspondent"; first two paragraphs are editor's lead.]

[FBIS Translated Text] From the "KZ" dossier. Gennadiy Aleksandrovich Sokolovskiy, Dr. of Technical Sciences, Academician of the International and Russian Engineering Academy, Honored Machine-Building of the Russian Federation, recipient of the Sovmin prize, was born in 1934 in the city of Smolensk, to the family of a service member (his father was an Air Force colonel). In 1958 he was graduated from the Moscow Aviation Institute. He has worked for more than thirty-five years in the State Machine-Building Design Bureau "Vympel" (the company had its start in the famous OKB [experimental design bureau]-134). He also heads the Department of Robot Technical Devices in Faculty No 7 of the Moscow Aviation Institute.

He is married and has two children.

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[Rebrov] Gennadiy Aleksandrovich, please forgive a brief discursion. There is an old joke about the drunk and the streetlight. This situation, in which a man who had dropped a coin somewhere looks for it under the streetlight because the light is better there, is now manifested under more serious circumstances: Confused by the disorder, people are looking for a way out of their odious existence, and as a rule looking in the wrong places. Among these people I count our legislative and executive structures. In your opinion, where should our enterprises look for a way out of the impasse?

[Sokolovskiy] Do you assume that this problem should concern only the defense sector itself, and no one else? That is a mistake. We are a state enterprise; we work for the country and for the sake of its interests. But if you want to talk about the market, not a "wild" one but a civilized one, the idea factory makes the most expensive goods, ones that are science-intensive, created in accordance with progressive technologies. Alas, people did not understand this, or do not want to understand. "Vympel" is a state enterprise. No state order, no financing, no life. We were financed at only 17 percent of the volume of the state order. The state owes us 18 billion rubles. So it turns out that we are impoverished billionaires, even if we are the "idea factory." The science-intensiveness of our product gives us the right to this claim. In the world market, it is much more expensive in dollars than it is for us in rubles. So isn't it more advisable to increase production? But they tell us: carry your suitcase yourself. So we are carrying it. There are lots of problems. Our client, the Air Forces, has kept our products list, but we don't know anything about the volumes. It is also hard on our subcontractors. Today the only way is to survive—not to subsist; that is something quite different. To survive means to retain potential, to not lose the high professionalism of your people and the company as a whole, to not lag behind in technologies, to efficiently realize progressive ideas, to assert yourself in the world market.

[Rebrov] As far as I know, your products do not go unnoticed abroad even today.

[Sokolovskiy] That's true. Recently I attended an International Conference in London. Its name, "Aviation Power," was quite symbolic. Why symbolic? I will explain. Aviation is the mirror of industry. Only a state which has the capability of producing modern aviation systems can rightly count itself great and technically developed. There were 35 countries represented at the conference. "Vympel" gave two reports, on items R72E and R27E. These are missiles of the "air-to-air" class with thermal and radar homing heads. They provoked interest of many companies of Europe and America, such as for example "Aerospaciale," "British Aircraft," "Hughes," and others.

[Rebrov] Did you talk only about these missiles?

[Sokolovskiy] We have a large product mix. I would like to talk separately about the intermediate-range missiles

with active homing heads—RVV-AB. In their characteristics they are not inferior to, and in some parameters they surpass, the well-known AMRAAMs of the American "Hughes" company. But we also have other promising items in reserve. Incidentally, don't think that only new items have a right to life. I can cite a number of times when by virtue of modernization of already-existing models, we improved their characteristics by a factor of one-and-a-half to two. My viewpoint, as general designer, is that simultaneously with the development of new items, we must also improve the old ones. First of all, this is cheaper, and secondly, it shortens the retooling time. The MIG-29 is an example. When it was equipped with new weapons, the effectiveness of the whole system could be improved by a factor of one-and-a-half.

[Rebrov] Gennadiy Aleksandrovich, the history of missile construction includes this fact: the conflict between Korolev and Glushko, the missile-builder and the engine specialist. Glushko claimed you could tie his engine to a stick and it would fly. How do the aircraft builders and the weapons specialists divide up the glory, if we can put it like that?

[Sokolovskiy] We did have that disease at one time. Of course, for a combat plane such characteristics as thrust-to-weight ratio, altitude capability, maneuverability, speed and rate of climb, and other flying and aerodynamic qualities are very important. But the plane is made for battle. Consequently, it must have the most modern and effective weaponry. This is what engages the target, both air and ground ones—the aircraft is a system.

Here is an example. The first question asked in the "introduction" of a particular aircraft is "what is your armament?" Everyone wonders, what is the target kill probability, what range can it be hit from, is the weapon capable of operating on the "fire and forget" principle, i.e. does it do the rest itself after the button is pushed?

[Rebrov] You mentioned the words "ground target." Are you talking about air-to-ground missiles?

[Sokolovskiy] Yes. We are developing such missiles. And also aerial launchers and catapult devices for all types of missiles, systems of guns and bomb weapons: turrets, drives, shackles, suspensions and such. Starting with the Il-2 ground-attack aircraft, the Tu-4, Tu-16, Tu-95, Tu-22 bombers, the B-6 flying boats etc.—all this is our equipment. We are also developing devices for dropping jammers, missile-targets, and SAM missiles. I would put it like this: "Vympel" is not simply a design bureau, but an aviation weapons complex. Precision weapons with television and laser homing heads have also been developed at "Vympel."

[Rebrov] I admit, I assumed that you had a narrower specialization. So in some areas "Vympel" is competing with companies which develop air defense missile systems?

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[Sokolovskiy] Why are you surprised? We make missiles capable of engaging high-speed aerial targets. If our items can withstand high G-forces, if they are launched from a moving platform, if they maintain the safety of the pilot, if airborne control systems etc. have been developed, then by increasing the thrust-to-weight ratio of the missile, by equipping it with a more powerful motor, we can offer original solutions. And we do. I would not call this competition. The "Fakel" MKB and other well-known companies make good missiles. But we should not rule out competitive projects. They advance thought, force us to seek out new ideas and solutions. Can this be bad? But there is also another way, as I see it, a better way. They have long understood abroad that competition is an extra expenditure of state resources, since there are many competitors. They began to combine companies of related profiles, for example "Hughes" and "Raytheon." Here this process has also begun: the scientific-production center "Strela-Zvezda" was formed by order of the Goskomoboronprom [State Committee of the Defense Industry].

[Rebrov] Gennadiy Aleksandrovich, on what do the specialists of "Vypel" spend the greater part of their time today? On the search for ideas? On their implementation? Or on something else?

[Sokolovskiy] This is very touchy question. Everything that bears our label is human labor. "The cadres decide everything" is not a podium slogan, but the truth. We have assembled our collective over years and decades. We have studied and grown accustomed to resolving the most complex scientific and technical, design, engineering and technological problems. Our people know how to do a great deal. But if we are forced—and this danger does exist—to release them on leave for two or three months, we will not gather them together again. We have the addresses, the phone numbers and such, everything as they say on file. But after such a break, it will not be a creatively capable collective. A pianist who does not practice every day loses his skill and ceases to be a master. It is the same with the designer. Seven to eight years of hard, exhausting daily work go into developing and creating the model. But now tell me: how do you convince people that they are needed? That the country needs them, for without them it will be deprived of its defensive might?

Since 1989 we have lost 48 percent of our cadre personnel, basically of the experimental plant. One can

understand those who left: by today's standards our pay is wretched. We are looking for new economic forms. We are creating temporary creative collectives—the scientific production association "Polyot," the scientific technical center "Vypel," the center "Metallurg." But we live in the era of paradoxes: to this point the Law on the Defense Complex has not been adopted, and priorities have not been determined. And one other thing. Contracts have been signed with Malaysia and China for the export of SU-27 and MIG-29 planes armed with serially-produced air-to-air missiles that we developed. "Vypel" as the developer did not receive one kopeck from this contract. And taxes? We were forced to turn over half of the wage fund. Why? Imagine: the state appears to give, understands that it should, but then immediately takes back a significant portion. [And then says] live and keep up your priceless potential. All this is sad.

[Rebrov] One gets the impression that the deliberate collapse of the defense sector is under way. I understand that it is impossible to get out of the crisis without belt-tightening. But what Russian riches are going up in smoke!

[Sokolovskiy] And isn't the defensive might of the country one of its riches?

[Rebrov] One of the main ones.

[Sokolovskiy] Exactly.

[Rebrov] The general designer introduced me to his colleagues: the chief designer Avangard Leonidovich Kegeles, the chief project engineer Valentin Timofeyevich Korsakov, the chief specialist Lazar Iosifovich Lerner. They took part in our conversation, supplemented it with examples, and argued their position. There was no divergence of viewpoint. Then I was shown the company museum. It displays the real-life "items." I should note that they were impressive. But I was most struck by a stand with models of prospective projects which had undergone aerodynamic tests, but as was explained to me, had been "frozen." The reason was always the same, no money.

Here is what I thought—in the history of mankind there is no precedent for the fundamental recovery of an economy under conditions of chaos. All the energy of the people is taken up in mass meetings. There are no forces for creation. There are no mass meetings at "Vypel"; here they do their work. If it supports this "idea factory," Russia will gain more than it is now losing.

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